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An Address
ON
THE MEANING OF A PROFESSION.

Delivered at the Opening of the Winter Session at Anderson's College Medical School, Glasgow, on Oct. 17th, 1902,

BY WILLIAM SMART, D.PHIL., LL.D.,
PROFESSOR OF POLITICAL ECONOMY IN GLASGOW UNIVERSITY.

GENTLEMEN,—You whom I am addressing are all, I believe, working towards a profession—the honoured profession called Medicine. What is a profession? This is not the same question as, What are the professions? The word "profession" is getting a little elastic in these days. I think it will be admitted that Law, Medicine, and the Church are professions. It may be personal bias, but I feel convinced that teaching is a profession. The army and navy have long claimed to be the noblest of professions. My colleague Professor Barr says that engineering is the oldest profession, going back to Tubal Cain. But there is an avocation which, legally, I believe, is confined to strollers and vagrants and yet calls itself "*the* profession," and if you look at music-hall bills you will find still further extension of the category. We can see, at any rate, from all this anxiety to adopt it that there is something worthy about the very name "profession." But what is a profession? Confronted with such a question, one naturally turns to a dictionary, and my dictionary—and every man swears by his own dictionary as he swears by his own watch—says that a profession is "the business which one professes to understand and to follow for subsistence," adding "not used of a merely mechanical business." I am afraid we are not much wiser by that definition. I think that my colleagues on this platform would object to be told that a profession is merely, after all, a "business," and, worse, a "business carried on for subsistence"; while, on the other hand, I do not think that a crossing-sweeper who "understands his business" can be called a professional man, still less if he professes to understand it but does not; and I do not know what a "merely mechanical business" is.

My old friend Ruskin used to get very striking results by appealing to derivation. He used, I think, to astonish himself, and certainly astonished us, by what he found, or thought he found, in derivations—as, e.g., when he reminded us that "lady" meant "loaf-giver," and "rex" "right-doer." On this line we should find that a professional man was one who at the end of his apprenticeship made a profession of knowing certain things. You know the old story of two candidates for the Blackstone medal in our university, one of whom for his examination professed the whole of Greek literature, only to be capped by another who professed the Greek language. But I think we are wiser nowadays than to profess that we know anything—but our ignorance—even at the end of a long life, much less when we are at the end of our apprenticeship; and one is not hopeful of discovering truth by derivation in my science after once finding that the harmless inoffensive grocer gets his name from a recognised ill-doer of the middle ages—the man who "engrossed," who made what were considered "unrighteous gains" by buying up goods and holding them for a high price.

But I did not come here to amuse myself with the game of word-taking and word-making. It is because I conceive that there is a very noble and suggestive meaning in the term "profession" that I think it worth while to hang a discourse on it. I am trying to get at what all the world unconsciously means when it honours you by the title of "professional man." For here we have a word whose meaning is not to be found out by analysis or derivation. Here, I maintain, is a word which has been attached to a certain characteristic of certain callings, so that when we say that a man belongs to one of these callings we expect a certain thing of him—and, what is more, we find that he responds to the expectation under the imperious call of that deepest of obligations known as *noblesse oblige*.

In my own subject just at the present moment we have to open up an old discussion which some people thought closed half a century ago—free trade. Now, when writing an introductory lecture on this subject the other day and trying to begin by a definition of free trade I found that the easiest way of defining what free trade is is to show what it is not, and so I began by defining protection. This is the course I intend to follow in the present case. To find out what a profession is I shall ask you to consider what is the occupation usually contrasted with it. Whatever else we say about professions we are all, I think, mightily indignant if medicine is called a trade. Well, I do not know much about medicine (the less an outsider knows about it the better, perhaps), but if I am supposed to have any qualifications for the teaching position I hold I know something about trades.

Perhaps you will be the more disposed to bear with me in a little excursus into my own subject if I say what my object is. I mean to prove that a profession is *not* a trade—that a physician is not what we, a little unjustly perhaps, call a "tradesman." But to do this I must first get you to understand and to do full justice to what a trade is and to what a tradesman is.

Ever since Adam and Eve were turned out of Paradise, ever since the Golden Age when either men could live without eating or found apples hanging ripe all the year overhead, industry has meant one thing. It is the struggle for existence of an animal for whom Nature makes little spontaneous provision. It is Man on the one side, with no fur or pelt or feathers, and with a digestive apparatus which cannot eat grass, and Nature on the other side—Nature who, I think, is originally hardest on her latest born of man, but most bounteous when man has learned how to win her favour; for Nature, as James Watt said, "has always a weak side if you can only find it out."

Of this world's industry a farm field is the microcosm. Out of the field come food, the raw materials of clothing, the raw materials of shelter. With the earth to work on and a brain and hands to work with man lives. In simpler times the peasant is both field worker and artisan, his own policeman and soldier, his own healer. But life, as *we* know it, is a thing of many mouths; and to satisfy these mouths of sense and intellect and soul, labour—at first represented by the single peasant—splits up into a variety and multiplicity of labourers. We have, in short, long before history opens, labour already divided up. The consuming stomach is the community. One man works to feed the community, another to clothe it, another to give it houses and tools and weapons, while others get differentiated off to provide the so-called higher goods of healing, and singing songs, and writing history, and making laws, and teaching the narrow way to Heaven, &c.

Now, of course, what differentiates modern industry from the simple farm field is that it is not in the least a family affair. It is not as if the sons worked in the field and the daughters milked in the byre and did the spinning in the kitchen and all contributed the results of their labour to the common larder, growing rich equally as the family larder and store press got fuller. For now, as it were, every man has left the ancestral home; he has set up for himself and sells his product for money. The wonderful thing is that this comes to the same end as if they were all working together in a farm field to fill the family larder, so that, if you consider it, the great family group called London, with all its millions, finds the provision for the day lying ready for it simply by going to the great larder called the shops and paying away its daily wages for its daily necessaries.

The point I am coming to is that it is all done independently and unconsciously. There is no one in authority who tells the scattered individuals what to make—what will be wanted for the day; they all, or nearly all, make on speculation. Consider this. If the police department of our municipality gives out an order for police clothing it specifies so many tunics, so many waistcoats—if policemen wear waistcoats—so many pairs of trousers, provided with so many buttons and straps, &c., and any contractor who takes the job in hand can calculate exactly how much cloth, how much braid, how much thread, how many buttons and straps, and how much labour will be required to turn these materials into the imposing garb which covers and embodies the majesty of the law. Here everything is ordered; the demand comes first; the demand is quite definite; and just so much material, and no more, is known to be required.

But this is just what does not happen with the great public—the great consuming community. *It does not order.* On the whole, it may be said that the great bulk of the

world's work never waits on orders. To supply current needs crops have been growing, and mines sinking, and factories running, months and years before the demand comes. On the whole, I say, the great mass of things—certainly the great mass of materials and of small manufactures—are provided in anticipation of, and on speculation of, demand. And so when a man goes into a trade he just begins making things—making them as fast as he can and as cheaply as he can and as many as he can and pours them into the shops, the larders of to-day, there to wait till someone comes by and demands them. Thus, you see, this great industrial society is a coöperation of all sorts of energies supplying goods for each other, almost unconsciously. The most of the occupations in this industrial organism we call, generally, "trades," whether extractive, or agricultural, or manufacturing, or carrying.

You will notice, then, what a man who is in a trade *does*. He does just what the peasant does, because he is one of the separate members into which the old peasant body of labour has differentiated itself. He is supplying the world with the things it needs—needs for its very life. He makes some article which the nation wants; he sells it for what he can get; and the price he gets is—roughly and untechnically speaking—his wage. The end he sets before him—the only end he ever thinks of, probably—is to earn a wage. But you can see that his real end—the thing which he is overruled into doing—is to feed and to clothe humanity.

Now, so far as this analysis has yet gone, there is no difference between a trade and a profession. And, before I can show you what a profession really is, you must first understand that a profession is *at least* a trade. We are all so mightily proud of being professional men that we need that this should be rubbed in.

The great body of labour is split up, not only into peasants and artisans, miners and railwaymen, shopkeepers and scavengers, but into soldiers and policemen, civil servants and judges, singers, musicians, authors, clergymen, physicians, and all the rest. Every one of us, more or less, works independently for his wage and throws his products into the shops for sale. You medical students are going forward to your degrees with the view of selling your services for what they will bring, precisely as the barber sells his services or the kitchenmaid hers. You are part of the great divided body of labour. When the labourer hangs about the millgate seeking a job it is not essentially different from your act when you put a brass plate outside your door and wait till someone employs you. That is to say, you also, like the tradesman, are doing your little bit of the world's work and doing it in anticipation of, and speculation on, a wage. You deserve your wage, but just as the scavenger deserves his wage, for there is no difference, so far as that goes, between a physician and a sanitary inspector and a sanitary scavenger. When you are tempted to forget that and to think that the medical profession is something *sui generis*, not to be confused with vulgar callings called trades, you should, perhaps, look a little into the family records. Your trade was not always held in the estimation which it now is. You are, after all, descendants of the primitive medicine man, who was, I think, more feared than loved. In enlightened Greece even your calling was sometimes thought rather an impertinence. "When a carpenter is ill," said Plato, "he asks the physician for a rough-and-ready cure—an emetic, or a purge, or a cautery, or the knife—these are his remedies; and if anyone tells him that he must go through a course of dietetics and swathe and swaddle his head, and all that sort of thing, he replies at once that he has no time to be ill and that he sees no good in a life which is spent in nursing disease to the neglect of his ordinary calling; and, therefore, bidding good bye to this advocate of a lingering death, he resumes his customary diet and either gets well and lives and goes about his business, or, if his constitution fails, he dies and has no more trouble."[1] Indeed, when you look into the soul of things, where does your trade come in the economic order? I sometimes wish there was a general strike among the trades, just to bring out one or two things. Then we should see that the neglected farm labourer, the greasy mechanic, the grimy collier, the man with the muck cart, are the people we could not do without; that our whole civilisation rests unstably on thousands and millions of people doing those homely and ill-paid and unpleasant tasks which we despise, for a wage, while we—well, I tremble to think how many of us so-called superior people never would be missed.

[1] Republic, iii., 407.

I began to think the other day—in a day dream—of how the present inequalities of wealth might be rectified. None of us is happy or at peace with his conscience in regard to those many millions who are always on the verge of starvation while some few of us are very greatly above that margin, and it struck me that, purely as a matter of theory, it might be done in one way: if you could for a generation prevent anybody from having a family who could not show, say, £300 of income. For, if there is any well-marked characteristic of people who have a good income it is, I think, their anxiety at any sacrifice to themselves to bring up, to educate, and to equip their children with such advantages that they will start life with a fair prospect of themselves having £300 a year; while among the poor it is scarcely thought of except as an impossibility. I dreamt then of the change that would come over the world in a single generation—the community consisting then entirely of well-educated, trained, ambitious young people who need never, in all probability, sink to the poverty line except through their own fault. And then this Alnaschar palace was shaken to its foundations by this consideration—*who, then, would do the dirty work?* We should all be in black coats and white collars; we should all have rushed into professions or into being employers or getting places in the civil service; and who would be a collier, or fill the manure cart, or sit cross-legged on a tailor's bench?

There are more things to be learned from that day dream than I can stop to tell you. I see by your laughter that you think it only a joke. Alas, is there not something only too cruelly true about it? We cannot and we do not prevent the poor from having families, but compare the numbers born among them with the numbers which survive. Adam Smith said long ago in his quaint way: "The tender plant is produced, but in so cold a soil and so severe a climate that it soon withers and dies. It is not uncommon, I have been frequently told, in the Highlands of Scotland for a mother who has borne 20 children not to have two alive." A writer in last month's *Nineteenth Century* quotes the words of a poor woman whom she met in a workhouse—and I suppose it is only an oft-told tale: "I had 11 children. They're all gone; I've buried 'em all." I do not know how that appeals to you, but to an economist it seems—it is—such a horrible waste. A child brought forth in labour and sorrow and expense, costing the mother perhaps her health or her life—at any rate, so many days off work; costing so much to bring up for many years; a sink of money day after day; and then that child cut off before it is able to repay a penny to the world of what it has cost in money and pain. And there is worse waste than this premature cutting off of life. There is the waste of lives which have cost all this but are *not* cut off, but live on in decrepitude, disease, idleness, vice, crime,—human centres of moral infection, supported by us in jails and workhouses all the years of their lives and buried in a pauper grave at our expense. I say that the waste of human life is the greatest waste which the economist has to witness to, for if there is no tool which is so productive of wealth as the human worker, there is no tool which is so costly to make.

I was saying that there is more in this day dream than I can stop to explain, but the one thing which I wanted to bring out by it was, that, when we in the professions look down upon the trades we have very little to do. We are not only fellow workers with them but we live very much of their good will. It is because they buy our services with their surplus that we are here at all and if they stopped doing the dirty work we should have to do it for ourselves. I am not in the least saying that this is any argument for being content that there are all these millions ready to do this dirty work. On the contrary, I for one shall be rejoiced when the time comes that there is a scarcity of labour to do these jobs; I shall be delighted to throw off my coat and to carry in my own coals if it means that the labourer at my gates is so rich that he refuses to do it for me. I hope that we are coming to a time when the hard and unpleasant work of the community will be done either by machinery or by workers at very high wages and in any case will be better distributed than it is. All that I am saying is, that we do not always realise how comparatively easily *we* could be done without in comparison with these trades which we sometimes despise.

What, then, differentiates the profession from the trade? I think I can tell you. I learned it from that great man who, whatever his extravagances, invariably saw right through to the heart of things—John Ruskin. He is asking why it is that the consent of mankind has always, in spite

of the philosophers, given precedence to the soldier over the merchant. The reason, he says, is "because he holds his life at the service of the State. Our estimate of him is based on this ultimate fact—of which we are well assured—that put him in a fortress breach, with all the pleasure of the world behind him and only death and his duty in front of him, he will keep his face to the front." It comes to this: there are two things which we all do—we work to earn a wage for ourselves and we work to supply our fellow men. The characteristic of the trade is that the tradesman looks first at his wage—very often never looks beyond it—and prefers to shut his eyes as to how he earns it. The professional man looks first at the service for which he is paid a wage, and if there comes a conflict between his work and his wage he will throw his wage to the wind, and in the last resort will die rather than earn a fee by doing what he knows will hurt or destroy. It is not the danger of his calling that makes the difference—many trades are ever so much more dangerous; it is not the length of time it takes to acquire it—many trades take longer, for every member of the black squad has to pass through his five years of apprenticeship like yourselves. It is that the professional man, like the soldier, "holds his life at the service of the State." This, I think, is a true analysis. This is the difference between the trades and the professions, on account of which men, though unconsciously, hold the professional man in an honour and respect which they never give to the tradesman. I have in my mind just now two limited companies, formed and carried on to make philanthropic experiment in providing a certain kind of goods to the public. The directors take no fees; the shareholders take the risk and limit themselves to 4 per cent. dividend—when they can get it. Their hands are absolutely clean. But there are great classes who will not believe it, but count it what they call a "capitalist job" to make money. I say the trader is always presumed to be thinking of himself and his wage and never of the public. On the other hand, there is only one thing more touching, to my mind, than the childlike confidence with which most people give themselves, mind and body, to their medical attendant, and that is their confidence that he "won't be hard on a poor body" as regards payment. The "doctor" is always presumed to be at the beck and call of suffering humanity. You see, it is, after all, a thin distinction. Many a physician will tell you quite honestly that he is a physician just as his neighbour is a grocer—because he must live; not realising in theory, though he always does in action, that he puts his work first and his fee entirely second. On the other hand, take the great trusts just now. You are aware, I daresay, of the intense feeling there is against them in the United States of America—so much so that the trusts have been driven to defend their existence. How do they do so? By showing how large their profits are? Nay; that is the very thing they keep in the dark if they can. They always put forward how great are the economies of combination, leaving us to infer that these economies are used to give us cheap goods. As a fact, they have not yet given us cheap goods, but they always protest that in the nature of things they are the only people who can give us cheap goods. That is to say, they justify their existence, as the physician does, by pointing to service to humanity. Indeed, Ruskin was writing just to bring out how thin the distinction was and how easy it was to pass from the one to the other if people would only think. He believed that, after all, the philosophers were right, that the peaceable man whose business is buying and selling should be held not in less honour than the unpeaceable and often irrational person whose trade was slaying. And he believed that trades became professions when men, consciously and seriously, accepted their trades as professions—set the work first and the wage second, and refused at any sacrifice to supply what they knew to be bad for humanity.

Now, if you consider, you will find that this is the mark of all professions worth calling professions. Does one ever hear of a man occupying the pulpit and preaching peace to his people when what they want is hard brutal truth? Does anyone hear of a teacher giving forth falsehood in order to fill his school? Does a lawyer ever sell bad law or bad conveyancing knowingly? I say that these things are as impossible to the professional man as it is to a soldier to sell information to the enemy or to declare a strike when called on to charge.

But this is the mark above all of the medical profession, and that is why I think that, on the whole, it is the noblest of all callings to which a man can devote himself. You medical men, like the members of all professions, mean to make a living by your work, to earn a wage—to earn a good wage, too. You meet a demand just of the same nature as the demand for butter and eggs and you get paid, just as any tradesman does, for meeting that demand. But while the tradesman's motto is "*Caveat emptor*" (let the buyer look to himself), your motto must be "*Caveat venditor*" (let the seller look to it what he sells). A tradesman, I mean to say, makes goods for the market. He makes them of any quality likely to sell—first class, second, or third. It is not his lookout who buys them or what the buyer does with them. But *you* dare not consult the whims and fancies of your customers. You sell only one quality of goods and that is your best, no matter what the public demand; and you think it your duty to see how your customers use the goods you sell. If the public ask for whisky the distiller gives it; if it asks for cheap whisky he gives it. No blame to him; it is his trade. But if your patient asks for a stimulant when he should have a sedative you do not give it—you dare not give it. *Caveat venditor*, for *noblesse oblige*. In all your dealings with your customers you are guided consciously by this one canon—the good of your patients; and if there comes a conflict between your own interest and the interests of your patients, without one thought, without one hesitation, you sacrifice your own interest. You face death daily in trying to fight it. Nay, by the very idea of your profession, you cannot do anything else than accept death rather than make a profit by hurting. If you are not healers there is no place for you—you are self-condemned.

I would finish by saying that there are three respects in which you may consider yourselves very highly favoured persons.

1. You escape a temptation that besets the trades all through—the temptation to be untrue to your highest selves. You have a certain thing to sell, the result of your training and experience, but you never tempt or trick people into buying it. You never persuade a man that he is ill in order to run up a bill. From the time when you enter a patient's house your only thought is to get him on his legs again and to cut short your wage-earning. You do not drop the knowing wink or circulate the printed lie to send up or to depress prices. You have not one code of conduct for Sundays and another for weekdays. As I have often said, you are inveterate Sabbath-breakers, but you show us how the Sabbath should be broken—in the service of man, not in the service of profit. You are, in fact, by long tradition, the friend of the family and trusted by the family as no one else is trusted but God.

2. You need never have any doubt of your calling. We are all, indeed, put into our occupations by our fathers, and very often we have little to do with choosing the occupation. Consequently, to all thoughtful men there comes a time when we are forced to ask ourselves, What is the effect of my occupation upon the world? Am I earning my bread by the making of something by which the world gains; or am I, perchance, earning my bread by furnishing something which the world would be better without? And, further, are the methods which I must pursue in my business—if I am to have any chance against my rivals—such as fully satisfy my conscience? Or must I content myself with what is called "business morality," meaning by that a number of practices which would not pass muster in any other court of morality? And all this is put before us with the dreadful alternative that, if we leave our business, we have generally sacrificed our apprenticeship and run the risk of pinching or starving those whose lives are dependent on us. It is happy for you, I say, that, when that time comes, you can answer to yourselves that there is no calling whose value to the world is so well accredited as that of the medical profession, and no calling where the methods are so entirely beyond reproach.

3. You will never have any difficulty in "doing good." It is a curious term—"doing good"—particularly when we think of it as something peculiarly virtuous; but I allude, of course, to that imperious demand which seems to come to every earnest man to do something more than his day's work, the feeling that we ought after hours to go out and do something for people without charging for it or making a profit on it—some personal service to our brothers. But just because it is personal it is very often beyond us to do it. Our daily paid work is really the only thing we can do well, and, with the best intentions, this "doing good" is often with us a melancholy failure. I have known a good man make himself and his friends miserable for years because he

insisted on going to the slums and calling on poor people; and he never knew what to say to them. But you—if you want to do extra work outside your wage-earning, I scarcely see how you can go wrong. You have a whole world of poor people around you suffering from all manner of physical evils. You have only to continue doing your day's work without charge.

And now, gentlemen, you will see why I, a mere economist, accepted gladly the invitation to open the session of a medical school. What I was tempted to do was to make use of my own technical subject and to show you how great a factor in all progress *competition* is. I should have liked very much to emphasise, what I am sure all my colleagues feel, that a monopoly in teaching, like a monopoly in anything else, is a bad thing, and that it is good for the university, good for the city, and good for medical science that there is at the gates of the university, and competing with it, a great medical school with the long and honourable traditions of Anderson's College behind it. Moreover, I should have precedent if I had done so, for my honoured predecessor, Adam Smith, a century and a half ago, was unmeasured in his denunciation of anything like monopoly in medical teaching. But I can always speak against monopoly and it is not every day that I get the chance of speaking my heart to a body of students outside my class, and so I preferred to put before you what position you hold in the world in which I am particularly interested, the world of industry. I wanted to make clear, if I could, what a very honourable place you have in that world and why the position is so honourable. I wanted to make you proud of your trade and, at the same time, to remind you why the world honours you. It is, in a word, because you are always and everywhere presumed to be Servants of Man.

A Lecture
ON
THE CARDIAC MUSCLE FROM A CLINICAL POINT OF VIEW.

Delivered before the Hunterian Society on Oct. 22nd, 1902,

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GENTLEMEN,—I have chosen for consideration this evening a subject of prime importance to all who are engaged in the practice of medicine or surgery. On the continuance of the circulation depends the continuance of life, and therefore in all serious conditions of disease, whether local or general, the attention of the practitioner must be riveted on the pulse and heart. From time immemorial this has been recognised not only by the medical profession but by their patients and the reputation of a medical man who omitted to "feel the pulse" would be short-lived indeed. Some, however, do this in a perfunctory manner and with comparatively little reflection, others gain much information from it. But at any rate all have their minds directed towards the condition of the heart as the principal factor in the circulation. The conclusions which can be drawn and the assistance which can be derived in the matter of treatment from the examination of the heart and arteries must depend upon the knowledge which we possess of the physiology of the circulation, on the one hand, and of the alterations which are liable to occur in it in the course of disease on the other. The most striking difference between ancient and modern medicine is that the latter recognises anatomy, physiology, and pathology as its foundations. Medical men make these the starting-point of their clinical experience and practice and they are no longer content to rely upon observations which are unsupported or unexplained by them. We look upon empiricism as merely a passing stage and we are constantly on the alert to find a rational explanation of observed facts; nor do we feel satisfied or secure till we have obtained one. Imbued with this spirit we approach the study of clinical medicine from the physiological side, and whatever be the organ the diseases of which occupy our attention we commence by a study of its anatomy and physiology. Cardiac physiology is a subject of very great complexity; innumerable experiments have been made and innumerable observations have been recorded; but the problem is so intricate, the relations of the heart with other organs and of other organs with it are so complicated and so difficult to unravel, that a great deal of difference of opinion with regard to many points exists even amongst expert physiologists. A medical man can hardly be expected to found his practice upon observations which are interpreted in different ways by different physiologists. But there are always certain central facts in the physiology of the various organs from which the practitioner may start and upon which he may base his observations and practice at the bedside. If his work is to be reasonable he must form a clear conception of the methods whereby the functions of different organs are performed; and though he may be so critical that he has to rely upon a limited number of facts to start with, he may as life advances add to their number and enlarge his conceptions in accordance with the onward march of physiological knowledge.

In considering the subject of the heart from a clinical point of view we may commence with a few remarks on the working of the organ in health. In the first place the muscular tissue which forms the mass of its walls appears to be independent, so far as mere rhythmic contraction goes, of all others parts, near or remote. It is set, so to say, to a rhythm of a certain rate and acts by the inherent contractility of its muscular fibres alone or through the mediation of the ganglia and nerve fibres which exist in its walls. If every organ and tissue in the body were subject to unaltering conditions of activity, if the nourishment they require were invariably the same in amount, and if the metabolic changes remained constant, then such a heart would suffice. But since this is not so and the body as a whole and each of its organs are the seat of frequent changes in these respects they must be in a position to increase or to diminish their blood-supply in accordance with their needs. Indeed, every territory of the body is supplied by nerves which serve this purpose. Afferent nerves from them are in communication with the vagal inhibitory centre in the medulla oblongata, while others act on the accelerator sympathetic nerves. By these means the heart's action can be either slowed and the blood pressure diminished or accelerated and the blood pressure increased. Moreover, by means of the vaso-constrictor and vaso-dilator fibres any part can bring about a dilatation or narrowing of the lumen of its arteries. So, varying the size of its arteries and varying the heart's force, it can arrange for the constant changes which occur in its functions. The heart itself is under the constant tonic influence of both accelerator and inhibitory nerves; but the latter being the stronger of the two it is always held in hand, so to say, by the vagus, probably owing to the perpetual stream of afferent nerve impulses which flow into its centre in the medulla oblongata.

The heart, however, is not at the mercy of the various organs of the body; it is the centre of life and it is safeguarded from being overpowered by work which it might be unable to perform. Its control is paramount, owing to its connexion by means of the depressor nerve with the general vascular centre in the medulla oblongata. This afferent nerve, distributed to the heart's substance, is sensitive to the varying amounts of pressure exerted on the inner wall of the heart by the rising or falling pressure at the periphery of the circulation. If this pressure is increasing beyond the normal the depressor nerve increases the calibre of certain peripheral vascular tracts and so removes the strain from the heart; or if the pressure on the internal surface of the organ fall too low the depressor nerve is less stimulated and the vascular centre produces contraction of the peripheral vessels and consequently a rise in the pressure. What specially secures the efficiency of this arrangement is the fact that the vascular system could contain a much larger quantity of blood than actually exists in the body. There are reservoirs, as it were, which can be filled whenever it is advantageous that certain areas should be more or less emptied. The most notable of these is the area within the abdomen supplied by the splanchnic nerves. So capacious is this that if its vessels be much dilated the blood pressure in the general circulation may fall dangerously low, while if they be contracted the general blood pressure is greatly increased. The nerve control which the heart,

therefore, is capable of exerting over each and every vascular area in the body enables it in health to secure a fairly constant pressure upon its walls, in spite of the great changes which occur in the peripheral resistances.

The respiratory centre in the medulla oblongata is in close relation with the centres controlling the heart and vascular system and can materially assist in obviating difficulties in the circulation. Inspiration acts as a suction-pump on the great veins and accelerates the flow of blood into the right side of the heart, while the pressure of the diaphragm and abdominal muscles increases the rapidity of the venous circulation within the abdomen. Such, then, are some of the main facts we have to bear in mind where cases of heart disease come under our care, as well as when we are treating cases of fever, or, indeed, any disease which exerts a deleterious effect upon the circulation. So many factors are at work in any particular case of illness that it is generally recognised that it is the patient as a whole the physician has to study and that he must beware of concentrating all his attention upon the organ which is the principal factor in the illness. It is this fact, probably, which makes it so difficult for even the most competent men in writing a book on medicine to describe in any way which appears adequate the treatment of diseases. Some of the very best books are, and must ever be, hopelessly deficient in this direction; and however loudly the student may call for a book which will teach him treatment he can only get the genuine thing at the bedside. A consideration of the altered physiology of every patient, and not only of that organ in which we detect physical signs of gross anatomical changes, is the only sure foundation of successful treatment. In touching, therefore, on a few points in treatment I merely indicate certain lines of thought which suggest themselves: a due consideration of each patient's case as a whole will suggest many more.

Whether it be heart disease or any other serious disease threatening life through the circulation with which we are dealing, it is failure of power on the part of the heart's muscle to carry on the circulation with which we have to do. No treatment which we know of can materially alter the condition of diseased valves. Some changes for the better may occur in these structures but we cannot be sure that they do. One of the first points to be considered is the heart's rate. Taking from 70 to 75 per minute as the average rate in a healthy adult man, what effect has mere increase in rapidity of contraction upon the heart's muscle? It does not appear to me that sufficient attention is paid to this point. There is a certain rate of contraction in all muscles at which they do their best work; other things then remaining equal, increase in rapidity beyond this point involves early fatigue. This means that the muscle becomes more feeble and in the case of the heart, a hollow muscle, it ought to imply dilatation after a certain period. And so it does. One of the most remarkable and unequivocal illustrations of this I ever saw was in the case of a healthy man, a farmer, about 50 years of age, who was subject to severe attacks of tachycardia, lasting days or weeks. I saw him in several. The heart's rate was between 200 and 300 a minute, the sounds were perfectly clear though of course short, and the rhythm was quite regular. The only alteration at first perceptible was acceleration of a heart otherwise healthy. The attack lasted some three weeks. Gradually the apex beat and cardiac dulness, which were within the nipple line, extended more and more towards the axilla, until the dimensions of the left ventricle became very large. Then appeared dropsy which, beginning in the feet, became general. Fortunately, the heart suddenly dropped to its normal rate, as it always did at the end of such attacks; so suddenly, indeed, that on one occasion as Dr. F. Fawssett, who was attending the case, was about to leave the room after feeling the pulse and finding that it was, as it had been for days, at a very high figure, the patient called to him to come back, saying that he felt "quite different." On examination it was found that the heart was beating at its normal rate. After this had occurred in the attack mentioned above the dropsy gradually disappeared, the apex beat slowly retraced its steps, and finally the heart returned to its normal dimensions. It is clear, therefore, that mere increased rapidity of action may enfeeble the heart. Increased rapidity is a common phenomenon in many diseases, whether of the heart itself or other organs, as well as in the very large class comprising the specific fevers. It occurs, also, in alterations of the vagus nerve, such as alcoholic neuritis, a fatal case of which I have myself recorded in the Transactions of the Pathological Society together with illustrations of the microscopical appearances of inflammation found in the nerve. Can we control these over-rapid hearts? Some we can and some we cannot. We do not appear to have any drugs on which we can rely simply to increase the control of the vagus or to lessen the effect of the accelerator nerves. In cases of nerve inflammation such as I have just mentioned the condition can only disappear when the inflammation of the nerve subsides. But even in what seem to be purely functional disorders, such as those producing the typical attacks of tachycardia, we have no drug which will with certainty, or even in most cases, stop the runaway heart. Various combinations of digitalis, valerian, bromide of potash, arsenic, strychnine, and other substances sometimes seem to be followed by improvement, but just as often, or even more often, they fail. It is well known that certain persons, or several members of certain families, have slowly acting hearts which appear to be just as effective as the more rapidly acting organs of other people. But I have also met the opposite condition where a patient had what one may term congenital tachycardia. Mr. W. G. Bott sent me the patient on account of dyspepsia and he wrote as follows: "He has been suffering from dyspepsia with vertigo and has a remarkably accelerated heart—140. I have attended him for 20 years and it has always been the same." The patient's age was 36 years; he looked healthy and his pulse was 160 in my room. His lips were of a healthy red hue. The pulse was quite regular and cardiac dulness was normal. The pulmonary and aortic sounds were normal. He appeared to be a healthy man and cycled and rode like other people. The liver was not increased in size. Three insurance offices had accepted him at ordinary rates. He had a loud systolic murmur at the apex conducted into the axilla but not to the angle of the scapula—probably congenital.

We are ignorant of the way in which the great controlling nerves of the heart are affected in cases of tachycardia or bradycardia and we are consequently very uncertain in our methods of dealing with them. In cases of valvular disease the heart becomes rapid as compensation fails. In mitral disease, for instance, the valvular defect makes the work of the auricles or ventricles, or both, greater; increased tension of the muscular wall is produced by the obstruction to the onward current of blood, and increased tension, within certain limits, increases the contractile power of muscle; the latter in the case of the heart works harder and hypertrophies. But if the valvular defect is progressive, as it often is, a limit is reached beyond which hypertrophy cannot go, and a further increase of pressure results in the giving way of the fatigued muscle, that is to say, in dilatation. But the muscle may be, and often is, healthy, though worn out, and if we can lessen its work great improvement may occur. The best way of doing this is to give complete rest for a while. The heart's beat in health is much less frequent on lying down, and even sitting down, than it is on standing or moving about. Consequently rest alone will often do all that is required where a heart is failing for the first time. We have drugs, too, that will increase its vigour and which are very beneficial when given at the right time, such as digitalis, strophanthus, and convallaria. But, in my opinion, they require a healthy heart's muscle to act upon and they are not of much benefit if it is degenerate. They also require that the rapidity of the heart's action should be greater than that which is normal to the patient in health. For while digitalis acting on the cardiac muscle improves the force of its contraction it also diminishes the number of heart-beats per minute and it is scarcely likely that improvement will result if the number falls below the normal. This is no doubt one reason why digitalis is not good in aortic disease, where the pulse-rate is usually slow. But where the left ventricle fails in aortic disease and the heart's rate becomes more rapid than in health digitalis may do much good. In giving this drug it has to be remembered that part of its action is on the peripheral arteries which it reduces in calibre, thus increasing the blood pressure on the arterial side. Now, other things remaining the same, an increasing pressure on the interior of the heart increases the force of its contraction and reduces the frequency of the beat. In mitral regurgitation and constriction the amount of blood passing into the aorta is reduced in quantity and the pulse is small; consequently digitalis by adapting the arteries to the diminished column of blood and increasing the arterial pressure braces up the heart and slows its

contraction. In aortic regurgitation, on the other hand, by throwing increased pressure upon the interior of the left ventricle, it adds to the difficult task the heart already has of ejecting a greatly increased quantity of blood from its cavity. The inappropriateness of this drug in aortic regurgitation is thus amply explained by its diminishing the rapidity of the heart's action, prolonging the diastolic filling of the ventricular cavity, and increasing the peripheral pressure which the heart has to struggle against.

What is required in aortic disease is to avoid sudden physical strain, nerve shock, or excitement. Regular, quiet exercise is beneficial, but strain may so increase the difficulty of the left ventricle that it suddenly fails altogether. Sudden emotion may have the same effect and produce sudden vagal inhibition and death. As regards drugs, what is required is some substance which simply increases the contractile power and nutrition of the cardiac muscle without either slowing the number of beats per second or throwing greater stress on the left ventricle by contracting the peripheral arteries. Caffeine is such a drug and it is an excellent cardiac stimulant. Strychnine is another, and although it produces a certain amount of contraction of vessels this is probably not beyond that degree which steadies the circulation and slightly braces up the left ventricle. Carbonate of ammonia is also a simple cardiac stimulant, but its action is so transient that it is more adapted to sudden emergencies than to continued treatment. Of course, the drugs just mentioned may also be given with digitalis in cases of mitral regurgitation or by themselves in advanced mitral constriction. For although digitalis is of much advantage in cases where the mitral orifice is not greatly reduced in size, still when it has become extremely narrowed its service is very questionable. For if at the mitral orifice the passage of blood is almost completely blocked, and by means of digitalis, which is probably our most vigorous cardiac stimulant, we whip up the right ventricle to increasing efforts, the pressure on the vessels of the lung between these two points may give way under the strain.

In another class of diseases—namely, the specific fevers, and in enteric fever most of all, as it lasts so long—the heart is liable to fail and its failure is one of the chief causes of death. I have already said that the increased frequency of the cardiac contractions is probably a very important element in the production of cardiac failure. To stave this off is the constant effort of the medical man. By keeping the patient in bed, by feeding him appropriately, by attending to anything that goes wrong in the functions of the other organs, he does his best to support the heart in its struggle. What can he do further by means of drugs? Alcohol, even in large quantities, is a favourite remedy. It is undoubtedly a cardiac stimulant, probably by its action on the accelerator nerves, but it also dilates the peripheral arteries. Now, in such a disease as typhoid fever the pulse is already accelerated and the peripheral arteries unduly relaxed. Alcohol, therefore, hardly appeals to me as an ideal stimulant to use and still less so when we remember that experiments have demonstrated that the heart shows distinct signs of exhaustion after the alcoholic acceleration has come to an end. What we seem to require is a drug which acts somewhat upon the peripheral arteries, helping them to resist dilatation and so producing a bracing effect upon the cardiac muscle while at the same time it has a direct tonic effect upon the heart itself. Strychnine is such a drug and in addition it stimulates the respiratory centre. It may be said that digitalis is our most reliable cardiac tonic and that it acts precisely in the way required, as it slows the heart-beat, increases its force, and contracts peripheral arteries. This is al true, but nevertheless it has always appeared to me that when given in fevers it fails to fulfil this promise. I do not know whether my hearers will allow this, but personally I see but little good effects from digitalis in the rapid and feeble heart of fever. My belief is, as I stated before, that the good effects of digitalis are only to be obtained when the heart's muscle, though fatigued and failing, is structurally comparatively healthy. Now the heart in fevers, and especially in prolonged fevers such as typhoid fever, is not healthy; it is pale, soft, and the seat of "cloudy swelling." Strychnine seems to have more effect under such conditions, perhaps because acting more on the nerve centres as well as muscles of the heart it has a tonic or anabolic effect upon their nutrition. Cold sponging, too, is invaluable when regularly done. In the first place it reduces the temperature, and this diminishes the heart's rate and moderates the deleterious effects produced by increased temperature on the cardiac muscle. And secondly, it contracts the arterioles of the surface, thus counteracting the accelerating effects of arterial dilatation on the heart and affording a gentle tonic to the cardiac contraction by the increased pressure which is thrown upon the left ventricle. Alcohol appears to be rather a cardiac tonic for emergencies—to sustain the heart for the critical day or two before the hoped-for crisis in pneumonia, for example—but even then it should be administered with others such as strychnine. It must not be forgotten that the improvement which undoubtedly occurs—in severe cases of enteric fever, for instance—when alcohol is given may be largely due to the tonic effect of alcohol in digestion, and also to the fact that alcohol is a force supplying food, notwithstanding the fact that it cannot actually enter into the composition of the various tissues. So far, then, we have seen that we are in a position clinically to carry out to a certain extent the suggestions of physiology as regards the heart when diseased, and that not only by arranging for appropriate diminution in its work when the circulation becomes difficult, but also by directly improving the force and nutrition of the organ by drugs.

But even if the heart's muscle be healthy and its valves healthy the organ may have serious difficulty in maintaining the circulation of the blood owing to great increase in the resistance which it has to overcome. This is well seen in cases of contracted granular kidney where the peripheral arterial resistance mounts higher and higher as the renal disease progresses. The increased pressure has the effect of stimulating the left ventricle to more vigorous contraction, the result being gradually increasing hypertrophy. The production of this effect is materially assisted by the increase in the blood-supply to the coronary arteries which directly results from the increased pressure in the aorta and the increasing vigour of the heart's contractions. But there is a limit to the extent to which the increasing peripheral resistance can be met by such means, and the heart is finally overpowered, dilatation occurs, and general dropsy. These cases are of very frequent occurrence, much more frequent than is generally realised. For the mitral orifice, when dilatation of the left ventricle occurs, admits of regurgitation; a systolic murmur is heard on auscultation and then the case presents the usual appearances of primary mitral valve disease with dropsy. The difficulties of diagnosis are often very great and such renal cases frequently pass for mitral cases. The prime factor in the circulatory failure in them is the increasing resistance on the arterial side. Within the limits of health this is arranged for by the depressor nerve, which feeling, so to say, the increased pressure on the internal surface of the heart, reflexly dilates the peripheral arteries and so relieves the tension. Can we imitate this action at the bedside? We can. Nitro-glycerine, nitrite of amyl, and the nitrites form a most useful class of drugs the action of which is to dilate the peripheral arterioles. And whereas it would be useless to use the cardiac tonic drugs already referred to while the flood-gates are closed, when the latter are opened by means of nitro-glycerine, then digitalis, strychnine, strophanthus, citrate of caffeine, &c., act with great effect on the failing heart's muscle. Another disease in which failure of the cardiac muscle usually leads to a fatal issue is emphysema of the lung. In this case it is the right side of the heart on which the maximum stress is thrown and not the left as in renal disease. But the cause is much the same in both—viz., a slowly increasing peripheral resistance. As a rule there is a history of bronchitis recurring every winter and finally, perhaps, lasting the whole year round. The nutrition of the smaller bronchi and pulmonary vesicles is impaired; they dilate owing to this and to the increased pressure upon them produced by forced inspiration and violent coughing; the septa between the vesicles disappear and the vesicles fuse into transparent sacs. The finer vesicles which were distributed on their walls disappear with them, and the area of the peripheral pulmonary circulation becomes smaller and smaller. The consequence is an ever-increasing stress upon the right side of the heart under which it gradually fails and general dropsy occurs. The circulation is further impeded by the diminution of the movements of respiration. The chest being fixed in a position of extreme inspiration much inspiratory enlargement is hardly possible and the suction of blood from the veins ceases; the diaphragm, too, being permanently lowered and the contents of

the chest no longer undergoing a healthy elastic recoil, the intermittent pressure on the venous circulation within the abdomen is reduced to a minimum. This condition is a very hopeless one. It is parallel to that of extreme mitral constriction. In both cases the right ventricle and auricle can be stimulated to more vigorous contraction by cardiac tonics, but they have to struggle against an absolute barrier which is hardly capable of even partial removal. In mitral stenosis the mitral orifice is rigid and incapable of dilatation, while in emphysema the pulmonary capillaries have been very seriously diminished in number and probably cannot be replaced, and the movements of the chest in respiration are also put finally *hors de combat*. By means of digitalis, strychnine, citrate of caffeine, &c., we can stimulate the right ventricle and auricle when seriously failing; but it must be done with great caution or the pressure within the pulmonary vessels will reach the bursting point. Removal of blood from the veins by venesection may relieve. But seeing what a hopeless task the medical man has before him in such circumstances he ought ever to bear in mind, when dealing with cases of recurring bronchitis, the certainty that in course of time the hopeless condition which I have endeavoured to describe will supervene. Preventive measures are the only safe ones; the patient should pass the winter and spring in climates where he is least likely to get bronchitis. And this must be done year after year. Most patients no doubt are not in a position to carry out such preventive measures, and a large proportion of those who are do not, as they say, "feel bad enough." This, of course, is the best reason why they should take advice while there is yet time. But whether they will do what we think best or not, it is our duty to make them acquainted with the usual course of recurring bronchitis, and give them an opportunity, if they are wise, of preventing, or at least making more remote, the advent of the last sad and painful stage of the disease.

The various difficulties which the cardiac muscle meets with and struggles against, often with considerable success, whether the valves of the heart are diseased or whether the obstruction to the circulation is situated in distant vascular territories, have been touched upon. They are serious enough but they are not those which are most to be dreaded. So long as the muscle is healthy it can accomplish great things and we can afford it some assistance. But what if the muscle itself be diseased? Anything is better than that. For in the chronic degenerative changes of the cardiac muscle and in the chronic interstitial inflammations, whether partial or general, we can do but little. They often occur in relation with atheroma and calcification of the coronary arteries and are due to a diminution of the blood-supply to the wall of the heart and over these conditions we have but little control. Certain drugs, such as arsenic, phosphorus, and strychnine, are supposed to improve the nutrition of the degenerating muscle and they may be given. But of how much real advantage they are it is difficult to say. Digitalis, strophanthus, and caffeine may also be tried, but with caution. Where they do good they probably act upon the fibres of the muscle which are still undegenerate. We usually have to content ourselves with attending to the general condition of the patient, endeavouring to keep his various physiological processes in the most perfect condition which the case permits, while we give him such instructions as should lead to no great or sudden strain being thrown upon the cardiac muscle.

A comparatively healthy cardiac muscle may, as we have seen, get into difficulties owing to disease of the valves of the heart, or owing to obstruction to the peripheral circulation, or owing to prolonged increase in the frequency of its contraction produced by disorders of its controlling nerves. Disease of the cardiac muscle itself, as it occurs in various fevers and still more in the chronic degenerative processes, is also the cause of very serious dangers to the circulation. But without any of these conditions being present patients may have what are termed "weak hearts." It is true that a great many more such hearts occur in the imagination of the public than in the judgment of medical men. But there are a considerable number of persons who easily get short of breath and for that reason can endure but a limited amount of physical exertion, or who get palpitation and discomfort in the præcordium when they try to do no more than other people, or whose fingers and toes get white and cold when little or no cold is present in the atmosphere. And yet such persons on examination present no signs of disease in any of their organs. All one discovers is that, perhaps, the cardiac impulse is somewhat feeble, the first sound a little short, the second feeble, and the pulse is easily obliterated by pressure. This class is no doubt a very mixed one. In some cases it is rather the nervous system which is at fault, either that which controls the heart or that which supplies the peripheral blood-vessels. But a certain number of these patients really have weak hearts—that is, weak cardiac muscles. Even the healthiest of us hardly have all our organs equally efficient, and the more weakly ones, though not diseased, have one one organ, another another, which is more particularly liable to get out of gear. In the case of the heart some owe this condition to obesity; the heart is normally surrounded in certain positions by fat, and this may accumulate externally so as almost to conceal the cardiac muscle. Without actually causing disease of the muscular fibres this fat hampers their action and produces "weak hearts." Now and then, and that even during the elastic years of youth, too great strain thrown upon a healthy heart may produce the condition of weakness which has been described, and it may last for months or years. A certain number of the boys in our great public schools suffer in this manner.

If we desire to strengthen the external muscles of the body we exercise them; and if we wish to strengthen a weak heart the best way is to exercise it—but steadily and gently, never throwing a serious strain upon it. It is difficult to tell any individual exactly how much he may do, but the breathing is a good guide. A patient may ascend gentle inclines at a pace which does not produce shortness of breath, or he may bicycle to the same extent. But he should not be allowed to play games in which he is not his own master and in which he has to play up to an opponent. Strain may at any moment result from that. In addition to this he should have abundant air, rest, and simple food. Such general tonics as dilute nitro-muriatic acid, quinine, nux vomica, and iron, if there is anæmia, may likewise be given. The Nauheim treatment makes use of certain opposing movements and also effervescing baths. The latter make breathing for the time more difficult and so far as they do that they interfere with one of the factors which favour the circulation; in this way they throw some strain on the heart. Whenever any new line of treatment reaches the public ear it is sure to be abused and to be tried in unsuitable cases. It requires much judgment, after careful examination, to say what degree of cardiac weakness is likely to improve under such treatment and in what cases it may lead to disaster, as it certainly has done from time to time. Weak hearts which are not the seat of actual disease will pretty certainly benefit; but with diseased hearts, and especially where the cardiac muscle is diseased, the greatest caution is necessary in the application of such remedies.

A weak and failing cardiac muscle is one of the commonest conditions which we have to treat, but the reverse condition is far less common. Still, from time to time we have to deal with cases where the heart is hypertrophied and by its violent action produces very troublesome sensations, such as a beat which is palpable and distressing to the patient, throbbing in the head and headache, together with a certain amount of mental confusion. I have seen such cases in perfectly healthy old people—that is to say, in people who are healthy apart from their vascular system; for the vessels are often thickened and tortuous. In these cases the thickening of the vessels has probably led to the cardiac hypertrophy. The heart is unable to relieve itself of the heightened pressure on its internal surface by means of the depressor nerve, as the arteries are too rigid. Nor can we help it much by nitro-glycerine and nitrites. Light unstimulating food without alcohol, regulation of the bowels, only gentle exercise, and the administration of bromides probably form the best line of treatment.

So far we have been considering the cardiac muscle with special reference to treatment. I will now direct your attention to the influence which the condition of the cardiac muscle exercises upon the diagnosis of valvular diseases of the heart. It is not sufficiently recognised that the detection of the latter by means of auscultation depends upon the contractile power of the cardiac muscles and the force with which the blood is driven onwards by them. Disease of any of the valves may be extreme without betraying itself by a murmur, provided that the heart's muscle is acting feebly, and murmurs which were very loud when the heart was in good condition may become very feeble or disappear entirely when the muscle fails. Hence the loudness of a murmur

does not vary directly with the extent and seriousness of the valve disease. Advanced pathological changes may be accompanied by a very slight bruit. Mitral stenosis is the condition which is most frequently present, and even extreme, without any murmur being heard on auscultation. This is probably due to the fact that the muscular wall of the left auricle is so much less powerful than that of the ventricle; indeed, when the auricular cavity is greatly dilated it is a question whether the auricle contracts at all. Presystolic murmurs often disappear when the auricle fails, and the pulmonary second sound which was previously accentuated may become feeble owing to the failure of the right ventricle. Aortic murmurs, too, not only systolic but even diastolic, may become feeble or quite inaudible when the left ventricle becomes so weak that it can no longer empty itself or eject the blood vigorously from its cavity. In such circumstances one may diagnose correctly dilatation of the heart and yet be unable to say to what cause it is due. I could give many instances of these facts but will content myself with three.

CASE 1.—A woman, aged 29 years, a cook, was admitted into St. Thomas's Hospital on May 18th, 1877, under the care of the late Dr. William Ord. She had had rheumatic fever twice, first five years previously and again a year before admission. When seen she had slight swelling and tenderness of the knees and pain in the epigastrium. The pulse-rate was 108 and the respirations were 52. No disease of the heart could be made out but there were signs of consolidation at the bases of both lungs. During the next week the pulse got very rapid, feeble, and irregular, and the cardiac dulness increased in all directions but no murmurs could be heard. By the tenth day after admission the condition had greatly improved; the pulse-rate had gone down from 140–150 to 84, but the heart was feeble and irregular. Hemiplegia supervened and she died shortly after. At the necropsy was found obliteration of the pericardial sac from old inflammation. There was marked mitral stenosis; the aortic valves were competent but there was a row of vegetations on the ventricular aspect of each. There were thrombosis of the left innominate and other veins and embolism of the right middle cerebral artery.

CASE 2.—A woman, aged 59 years, was admitted into St. Thomas's Hospital on Jan. 14th, 1879, and died on the 17th. She had had difficulty in breathing for years but no definite illness until the previous December when she got a bad "cold." She continued to work for the first week and was then completely laid up, the breathing getting shorter and more difficult. Dropsy supervened 14 days before admission. On admission she was emaciated; the capillaries of the cheeks were livid and so were the hands and feet. The conjunctiva was yellow. The liver was much enlarged and tender and there was œdema of the lower extremities. The chest was hyper-resonant. The heart's impulse was strong but the exact position of the apex beat could not be determined. There was a very slight thrill over the heart. There was no evident increase in the area of cardiac dulness. The action of the heart was irregular, rapid, and feeble—130 per minute. No murmurs were present. Post-mortem examination showed the aortic valves to be rigid and thickened, with calcareous nodules in them; they permitted slow regurgitation. The mitral orifice only measured two and a half inches. The cardiac muscle was soft and there was dilatation of all the cavities.

CASE 3.—A man, aged 39 years, was admitted into St. Thomas's Hospital under my care on Feb. 18th and died on April 4th, 1902. In the previous November he had had swelling of the legs and had passed very little urine. He had been a heavy drinker. When he came under my care he had been suffering from shortness of breath and swelling of the legs for three weeks. His breathing was laborious and he was expectorating frothy, blood-stained fluid. He talked loudly and incoherently. The pulse was 100 and feeble and the arteries were thick. The lungs were emphysematous. The cardiac dulness extended upwards to the fifth rib, to the left edge of the sternum, and to the nipple line. The apex beat was in the sixth intercostal space in the nipple line. The heart sounds were feeble and there were no murmurs. During the greater part of the time he remained alive he had pronounced Cheyne-Stokes respiration; dropsy increased and his abdomen was tapped on more than one occasion. The heart's sounds were short and sharp and the first much resembled the second. Careful auscultation never revealed any murmur. At the post-mortem examination the heart, especially the left ventricle, was much dilated; the walls of the latter were pale and thin. The aortic semilunar valves were greatly thickened and adherent at their edges and the valve was incompetent.

In this case the diagnosis, which was arrived at after constant and careful examination of the heart, was cardiac dilatation and this was supposed to be due to primary degeneration of the heart's muscle. The very marked aortic disease which existed and was such an important factor in the case could not be made out owing to the extreme feebleness of the cardiac muscle.

Whether the heart's muscle be feeble or vigorous mere rapidity of action puts such difficulties in the way of accurate diagnosis of valve disease that with a pulse of 130 or 140, although one may hear a murmur or murmurs, a prudent man should decline to say what precise variety of valve disease is present until the heart's rate is reduced.

Again, a very dilated heart may so closely simulate pericardial effusion that the diagnosis is sometimes impossible. In both these conditions the area of cardiac dulness may be enormously increased in size; the apex beat may be absent and the sounds feeble. In the case of dilatation it is true that the sounds, though feeble, are usually short and sharp; whereas in effusion they are rather muffled. But if endocardial murmurs are present as well this distinguishing character may be very difficult to appreciate. The following is a case in point.

A boy, aged nine years, was admitted into St. Thomas's Hospital under my care on Jan. 2nd, 1902, and was discharged on Feb. 12th. His father had had two attacks of rheumatic fever and the boy now came in with a mild attack of the same disease. It was his first attack and had already lasted three weeks. On examination he was found to have very slight pyrexia. A loud systolic murmur was heard at the heart's apex and it was conducted into the axilla. The pulmonary second sound was accentuated. The cardiac dulness extended above to the third left costal cartilage, to the left sternal edge, and to the nipple line. The apex beat was in the fifth left intercostal space in the nipple line. In fact the physical signs were those of mitral regurgitation with slight cardiac hypertrophy. With the exception of this he went out well on Feb. 12th. He remained quite well for a week after he left the hospital and then he began to complain of pain in the right shoulder, chest, and abdomen. He was restless and wandering at night, had a cough and drenching night sweats. He was readmitted on March 4th and looked pale and ill. His respirations were 36 per minute and he had a frequent cough. The pulse was 120, regular, and of good volume. The temperature was 100° F. On examination of the chest expansion was good and the movements were equal on the two sides. The intercostal spaces were fuller about the nipple on the left side than on the right. The apex beat could not be seen or felt when the patient was lying down, but when he was propped up in bed it became faintly visible in the sixth intercostal space and could just be felt with the finger. The area of cardiac dulness was enormous. On the left side it extended up to the clavicle and towards the axilla as far as the anterior axillary line. On the right it reached to within a finger's breadth of the right nipple and upwards as far as the second rib. At the apex a systolic murmur replaced the first sound and was conducted towards the axilla. Towards the sternum a to-and-fro rub could be heard and upwards towards the base of the heart. The second sound was faint and was heard better at the apex than at the base of the heart. On March 7th, three days after admission, the boy was in much distress, the respirations varying between 52 and 44 per minute, and the pulse-rate was 120, but the volume and tension were fair. The facts that the patient had so recently left the hospital with a heart of quite moderate size and that he now returned with such an enormous area of dulness, that the apex beat could hardly be seen or felt in any position of the patient, that the sounds were faint, and that the pulse, though rapid, remained regular and of fair strength, made me suppose that pericardial effusion was present rather than cardiac dilatation, and the patient not improving I considered it better to have the pericardium explored. This was done but no fluid was found and from the trocar came jets of blood, no doubt from the right ventricle. After the operation, however, the patient's condition rapidly improved in every way and he was discharged on May 19th with the cardiac dulness greatly diminished in extent, with a systolic mitral murmur and an accentuated pulmonary second sound, but with no serious cardiac symptoms.

This case presents a good example of the difficulties in diagnosis which may result from a failing cardiac muscle giving rise to dilatation of the heart and simulating pericardial effusion. It is an extreme and unusual case but similar difficulties occur not infrequently when the question of operation has not to be considered.

Finally, among all the organs of the body the heart, and more particularly the cardiac muscle, stands out prominently as a guide to prognosis. In diseases of the heart itself this is clearly so. It is true that in certain affections, when they are extreme, however healthy and competent the muscle may be, death cannot be averted. In mitral and aortic stenosis, for example, the time comes when the orifices become so small that sufficient blood cannot pass through them to support life and venous congestion terminates the scene. But even in these cases for years, perhaps, life depends upon the efficiency of the cardiac muscle. Compensation in heart disease means increase in healthy muscle which is sufficient to make up for the difficulty in the circulation produced by valvular and other diseases, and the prognosis at any time depends upon how far this compensatory increase can occur and be maintained. In the majority of cases, when the orifices are not extremely small, the duration of life depends upon the muscle of the heart and a judgment has to be formed by means of a clinical examination of the heart and a consideration of all the difficulties the organ has to contend with, as well as of the capabilities of the remaining organs to maintain the nutrition of the cardiac muscle.

In those diseases, too, in which the heart undergoes hypertrophy owing to difficulties in the peripheral circulation, the prognosis, though not solely to be estimated by the condition of the cardiac muscle, often depends, nevertheless, to a large extent upon this factor. Many cases of contracted granular kidney terminate in cardiac dropsy owing to failure of the ventricle, though many deaths occur in other ways. The same may be said of cases of chronic bronchitis, emphysema, and hypertrophy of the right ventricle. Where the muscle of the heart is primarily diseased, as in fatty degeneration and the various forms of interstitial myocarditis, life depends, of course, upon the extent to which the muscle suffers. In fevers of all kinds our attention is constantly fixed upon the pulse and heart, as the question of survival of the patient depends upon the heart's capability of retaining its energy until the fever terminates. In all such cases cardiac failure is brought about partly by fatigue owing to continued rapidity of contraction, partly owing to degenerative changes in nerve and muscle produced by various toxins and by increased temperature. In typhus fever, in pneumonia, and in other severe fevers of short duration the crisis is looked for with anxiety and the prognosis depends largely upon whether we can sustain the heart until it does occur in its work of keeping up the circulation. In the more prolonged fevers, such as typhoid, death by asthenia, as it is termed, practically means death by slow cardiac failure. But in all chronic diseases, though death may not be due primarily and directly to feebleness of the cardiac muscle, the latter is nevertheless an important contributory cause. In a great number of diseases, therefore, whether acute or chronic, the practitioner must keep clearly in view, and determine by all methods at his command, the capabilities of the cardiac muscle if he wishes to form a sound judgment upon the probabilities as to the duration of life, health, and activity of the patients under his care. In some cases this is an easy matter, in others it is most difficult. In persons who have had for years valvular disease of the heart compensatory hypertrophy of muscle has occurred and symptoms have perhaps been few because an increase in good healthy muscle has insured a satisfactory performance of the extra work thrown upon the heart. But at a later period, when symptoms of distress occur and the patient consults a medical man, the evident increase in the size of the heart, accompanied, however, by a rapid, feeble, and irregular pulse, and perhaps dropsy, with hepatic enlargement and albuminuria, clearly proves that the cardiac muscle, large as it is, is giving way under fatigue or degeneration. Similarly when one sees a case of pneumonia or typhoid fever and watches it from the beginning it is easy to follow from day to day the altering conditions of the heart, to detect by various means of examination the weakening of the cardiac muscle, and possibly to prevent its reaching a fatal degree. But when an individual who has neither valvular disease nor any of the specific fevers comes to consult a medical man on account of loss of health, possibly accompanied by certain symptoms suggestive of defect in the central organ of the circulation, and who nevertheless presents neither cardiac enlargement nor any murmurs suggestive of valve disease, how can it be discovered whether he has fatty or other degeneration of the cardiac muscle? This is sometimes one of the most difficult of medical problems. The condition may be most insidious. The patient may not present any appearance of ill-health nor need there be any symptoms of a serious kind. One might naturally expect that the pulse would betray the condition of the cardiac muscle on the contraction of which it depends. Even though not, perhaps, altered in rate or rhythm the pulse-wave should be short and feeble and the tension greatly diminished. But a pulse with these characters is not a very uncommon constitutional peculiarity in people who appear to be in every way healthy. If, however, on the examination of the heart of a person with such a pulse one finds that the apex beat is feeble or absent, if the first and second sounds are short and faint, if the first approximates in character to the second, the diagnosis of cardiac degeneration becomes very probable. If, moreover, on getting the patient to exert himself a little the heart's beat does not respond and become more vigorous, but on the contrary the heart's action becomes embarrassed, this diagnosis is rendered still more probable. And if, finally, to these indications are added syncopal, apoplectiform, epileptiform, or anginal attacks it becomes well-nigh certain that we have to deal with a case of degeneration of the cardiac muscle. When we consider that on the force of the contraction of the heart depends the due supply of blood to all the viscera we might expect that with a degenerate heart the functions of every part of the body would be impaired. And this is often the case. The patients may get thin, pale, and feeble, and suffer from indigestion, shortness of breath on exertion, and diminution of mental power. Dropsy, however, which is so common in many cardiac diseases, we must not expect. It rarely occurs. For positive obstruction in the circulation is generally one of the factors in cardiac dropsy, as well as a certain degree of vigorous contraction on the part of the left ventricle; but in fatty degeneration of the heart neither of these phenomena occurs.

In the remarks which I have ventured to make to-night I fully appreciate the fact that I have been labouring at a well-worn theme and one which is probably already estimated at its full value by all my hearers. Nevertheless, amid the hurry and cares of everyday life there are many such things which we know, or which, at any rate, we have known, and which therefore no longer strike us as additions to our knowledge, and yet they have ceased to present themselves prominently or frequently to our minds, and it may serve some useful purpose if from time to time our attention is once more specially directed to them. Much of our knowledge is, in fact, potential only, not actual. It exists within us, but is only to be brought into activity when something, or someone, touches the spring which serves to unveil it.

SHELL-FISH AND ENTERIC FEVER.—At the meeting of the Newton Abbot district council held on Nov. 17th the medical officer of health (Dr. H. B. Mapleton) warned the residents against the consumption of shell-fish taken from the river. He stated that during the preceding month three cases of enteric fever in Newton Abbot had been directly attributable to this cause.

THE BEN NEVIS OBSERVATORIES.—In a memorandum, dated June, 1902, the directors intimated that the observatories at the top of Ben Nevis and in Fort William were to be discontinued at the beginning of October, 1902. In consequence of a proposal by the Treasury to make an inquiry into the administration of the grant to the Meteorological Council, the directors were urged by members of Parliament and others interested in the observatories to make an effort to keep the observatories at work till the inquiry had been completed. They have now to intimate that they have succeeded in obtaining the necessary funds and that there will be no stoppage of the work at the observatories till October, 1904; that is, the work will go on as hitherto for other two years. One generous donor is to provide the whole funds necessary for the second year. This prolongation will give ample time to make such arrangements as may be consequent on the report of the committee of inquiry.

The Croonian Lectures
ON
THE NATURAL HISTORY AND PATHOLOGY OF PNEUMONIA.

BY THE LATE J. W. WASHBOURN, C.M.G., M.D., F.R.C.P. LOND.,
CONSULTING PHYSICIAN TO H.M. FORCES IN SOUTH AFRICA; PHYSICIAN TO GUY'S HOSPITAL AND THE LONDON FEVER HOSPITAL, &C.

Delivered before the Royal College of Physicians of London on Nov. 11th, 13th, 18th, and 20th, 1902, by W. HALE WHITE, M.D., F.R.C.P. Lond.; *and edited by* J. W. H. EYRE, M.D. Durh.

LECTURE IV.[1]

Delivered on Nov. 20th.

Inhalation of fine particles.—It is usually believed that during ordinary respiration the tidal air does not reach the alveoli of the lung for the following reasons. In ordinary respiration about 450 cubic centimetres of air are taken in and given out at each respiration; after a normal expiration succeeding a normal inspiration, 2500 cubic centimetres of stationary air remain in the lungs. Consequently only a small proportion of the total air in the lungs passes in from the atmosphere at each inspiration and it is concluded that the tidal air does not reach the alveoli, fresh oxygen reaching the alveoli chiefly by diffusion. Nevertheless, some of the tidal air goes directly into the alveoli, for Zuntz and Loewy have shown that the capacity of the upper air spaces and the bronchial tree to the infundibula is only 140 cubic centimetres, about one-third the amount of the tidal air.[2] During abnormal inspiration, such as occurs after a fit of coughing, still more of the tidal air passes directly into the alveoli. The air we breathe contains many fine particles both living (such as bacteria) and inanimate (such as soot particles). The majority of these particles are entangled in the mucus of the respiratory tract and are conveyed upwards by the ciliated epithelium, as I have already mentioned. Everyone who has worked with inhalation experiments has observed this. In the experiments conducted by Dr. M. B. Pembrey and myself we always found a large amount of the particles entangled in the mucus from the nose right down to the smaller bronchi, the larger quantity being in the upper part of the respiratory tract. When the period of inhalation was very short the mucous membrane of the turbinate bones appeared to act as a most effective filter. This filtering of the inspired air was observed by Tyndall who found that the latter part of the expired air was optically pure, the inspired air containing particles. Haldane[3] found that the air in a room contained fewer bacteria after it had been occupied by a number of individuals than before, the bacteria having been filtered off during the process of respiration. Straus[4] counted the number of bacteria in inspired and expired air, and found a considerable diminution in the latter. For instance, he found that in one experiment the inspired air contained 20,700 bacteria in the cubic metre, while the expired air only contained 40. Although most of the bacteria and other particles are caught up by the mucus, some from time to time reach the alveoli. We shall have to consider what happens to them there, for this has an important bearing upon the question of infection through the lungs. Bearing upon this point a large number of experiments have been made upon absorption from the lungs by Arnold, Fabine, Fleiner, von Jus, Peiper, Ruppert, Sehrwald, von Knauff, S'avjansky, Tschistovitch, Cox, Schottelius, Tappeiner, and others.

Absorption of fluids.—Fluids when injected into the trachea are rapidly absorbed. Peiper[5] found that from 20 to 25 cubic centimetres of distilled water could be injected into the trachea of a rabbit without even causing dyspnœa. A dog received without noticeable effect 250 cubic centimetres of water in one hour, in doses of from 30 to 50 cubic centimetres, while strychnine when injected into the trachea produced tetanic symptoms within 80 seconds. Sehrwald[6] found that sticky fluids were more slowly absorbed and only reached as far as the bronchi.

Absorption of particles suspended in fluids.—Still more remarkable were the experiments of Nothnagel,[7] who killed animals by cutting through the trachea and large vessels and allowed the blood to pass into the trachea. On examining the lungs he found that the alveoli were filled with blood which had also passed through the alveoli into the lymphatics in the interalveolar and interlobular connective tissue, even in the short time (not more than three and a half to five minutes) between the operation and the immersion of the lungs into alcohol. Fleiner[8] repeated and confirmed these experiments. By allowing blood, or Indian ink, to flow into the trachea in sufficient quantity to kill the animal he found the corpuscles or particles of ink in the lymph spaces in the walls of the alveoli, in the bronchial glands, and in the intervening lymphatic vessels. The absorption took place entirely through the alveoli, and there was no absorption through the mucous membrane of the trachea or bronchi. According to these experiments it is the easiest matter for particles which reach the alveoli of the lung to pass into its parenchyma, and thence to pass into the bronchial glands. Apparently there is no defence against the invasion of the lungs when the particles have once reached the alveoli. Pembrey and I thought it worth while to repeat these experiments, for although we recognised that the violent respiratory movements which occurred during the experiment might account for the rapid passage of the particles into the glands still even then we thought that the matter required further investigation. The experiments were performed in the following way: In both sets of experiments rabbits were used. For the blood inhalation the trachea and large vessels were cut at the same time and by a little manipulation the blood as it flowed from the vessels was aspirated by the inspiratory movements into the trachea and lungs. For the Indian ink inhalations the rabbit was anæsthetised and a cannula was placed in the trachea. The carotids were cut, care being taken that no blood should get into the trachea. At the same time an emulsion of Indian ink was passed into the trachea. The loss of blood in each case caused deep inspiratory efforts and the animal died in a minute or two. The lungs and bronchial glands were immediately removed, hardened in alcohol, and sections made. In the case of blood inhalation we found that portions of the lung were solid and of a bright red colour, from the aspirated blood contrasting with the pallor of the rest of the lung. The solid portions depended upon the position of the animal during the experiment: when the animal was in the supine position the posterior border was chiefly affected; when in the prone position the lungs were affected in patches, the posterior borders not being especially affected; and when in a vertical position with the feet down the bases of the lungs were especially affected. A microscopical examination showed that the alveoli were filled with blood. It was difficult to say whether the blood had penetrated the alveolar walls for two reasons. Firstly, it is not easy to say whether blood in the walls of the alveoli is in the pulmonary capillaries or outside them. Secondly, in many cases the walls of the alveoli were so compressed by the blood in the alveoli as to render them very narrow. However, we believe that blood had penetrated into the walls. In some cases we found blood in the peri-arterial lymphatics, but they were never so distended as to render the matter very obvious. On examining the bronchial glands there was clearly blood in the lymph spaces. However, on examining the bronchial glands of normal rabbits we found a similar condition, and we can only conclude that the bronchial glands of rabbits are mixed lymph and hæmo-lymph glands, such as have been described by Leydig, Gibber, Robertson, Clarkson, Vincent, Harrison, and Warthin.[9] We consequently believe that Nothnagel's experiments are not of the importance which they at first appeared to be.

In the Indian ink experiments it was easy to see on microscopical examination of the lungs that the particles had penetrated the walls of the alveoli, where they were found lying in the lymph spaces. Some of the particles were

[1] Lectures I., II., and III. were published in THE LANCET of Nov. 15th (p. 1301), 22nd (p. 1378), and 29th (p. 1440), 1902, respectively.
[2] Zuntz and Loewy, quoted by Stewart.
[3] Philosophical Transactions, B., 1887.
[4] Annales de l'Institut Pasteur, tome ii., 1888, p. 181.
[5] Zeitschrift für Klinische Medicin, Band viii.
[6] Ger., &c., Klin. Arb. von Rosbach und Sehrwald, 1890, Jena.
[7] Archiv für Pathologische Anatomie, Band lxxi., 1877, p. 414. Virchow's Archiv, 1886, p. 98.
[8] American Journal of Anatomy, vol. i., No. 1, November, 1901.

inclosed in large cells similar to the "dust cells," but the majority were free. There was no evidence of absorption through the bronchi. We were not satisfied that the particles were present in the peribronchial or perivascular lymphatics. In the bronchial glands the Indian ink had penetrated, as was apparent on opening the chest. However, we found that the lining membrane of the pulmonary veins and the left auricle was stained with the dye, showing that a rupture of the vessels had occurred during the convulsions, which observation was also confirmed by a microscopical examination of the lung. We repeated this experiment with the same results and we consequently infer that Fleiner's conclusions were not justified. Violent respiratory movements during asphyxia without doubt lead to rupture of small pulmonary blood-vessels. These experiments by Nothnagel and Fleiner therefore do not bear the interpretation which was first given to them. They do not support the view that particles finding themselves in the alveoli of the lung rapidly pass along the lymphatics into the bronchial glands. An interesting point in our experiments is the taking-up of the particles by the cells in the few minutes which elapsed after the injection.[10] We will next consider what happens to the particles which have been inhaled.

Fate of inhaled fine particles.—A large number of experiments have been made as to the fate of fine particles suspended in the inhaled air. Arnold,[11] perhaps, is the investigator who has made the most extensive experiments. Various particles have been used, such as lamp-black, cinnabar, and emery powder. In almost all the experiments the number of particles in the air has been enormous, far exceeding anything that is likely to occur in nature. Also, in most of the experiments the inhalation has been prolonged and animals have been killed some time after the cessation of the inhalation, the motive of the experiments generally being the investigation of anthracosis. As a consequence, we know a great deal more about the ultimate fate of inhaled particles than we do about the early stages of absorption. As a result of these experiments it has been definitely established that after prolonged inhalation of air intensely laden with fine particles the latter are found in the peribronchial and perivascular lymphatics, in the adenoid tissue of the lung in connexion with these lymphatics, and in the bronchial glands. All observers have noticed these points.

The point most in dispute is the exact mode by which the particles enter. Another question of even more importance from the point of view of pathology is how far the mechanism of the lung facilitates or hinders the entrance of particles from the alveoli or tubes into the lung. The bulk of evidence is strongly in favour of the view that no absorption of particles takes place through the mucous membrane of the trachea or bronchi. On examining the mucous membrane very carefully Arnold found no particles in its walls except in cases of very prolonged inhalation, and they are then found especially in parts where there is lymphoid tissue; it is probable that the particles are being excreted into the bronchus and not in process of absorption. Aufrecht is the chief opponent of this view. He points out as somewhat remarkable, that in all experiments upon the inhalation of fine particles the size of the particles which are found in the tissue of the lung has not been noticed in explaining how these particles have gained entrance. He states that sometimes particles of dust are found in the tissue of the lung larger than the size of the alveoli, and he therefore considers that they must have passed through the wall of the bronchi. In an experiment of injecting Thoma's "phosphatmehl" into the trachea of a rabbit the animal was killed four days after; large particles were found in the bronchial wall and in the peribronchial tissue. He considered that the particles had passed through the wall of the bronchi because he found splitting of the muscular tissue. He suggests that the lymphatic foci described by von Knauff are not really foci but granulation tissue. In support of Aufrecht's contention is the fact that in the older experiments the particles were not found in large numbers in the alveolar walls. Arnold, for instance, draws special attention to this, but it must be remembered that in most of these experiments the animal was not killed for some considerable time after the inhalation and consequently the particles may have been already removed from the wall.

All observers agree that the particles found in the lung after inhalation, whether in the lumen of the alveoli or in the lymph spaces and lymph vessels, are partly free and partly inclosed in cells, and there is a general agreement that at an early stage of inhalation the majority of the particles, whether in the lumen of the alveoli or in the lymphatic spaces and vessels, are free, while at a later period many of the particles are inclosed in cells—the so-called "dust cells." We shall have to consider the origin of these cells and their functions. In the lumen of the alveoli after inhalation, according to Arnold (and in this he is supported by most other observers), two kinds of cells containing particles are found. The one kind is a small round cell with a round nucleus, which is sometimes tattered or in process of being "cut off," fragmented, and with a small amount of granular protoplasm. The other class of cell is a large cell with an oval vesicular nucleus and a finely granular protoplasm.

Now, the walls of the alveoli are lined, as I have already stated, with two kinds of cells, the one being a large flattened cell and the other a small cell with granular protoplasm. At first sight it would appear that these two kinds of "dust cells" represent shed alveolar cells, and this, indeed, is the view that has been taken by some. Others hold that the small cells are leucocytes, while Tchistovitch considers that both are derived from wandering cells, the smaller being microphages and the larger macrophages. Slaviansky,[12] by injecting different coloured particles into the trachea and veins, found the particles both in the cells in the lumen of the alveoli. Tchistovitch, by injecting carmine into the veins, found 24 hours later leucocytes and large epithelioid cells containing carmine in the alveoli. Aufrecht states that the "dust cells" are always derived from alveolar epithelium, and that in no case has he seen particles of dust in white blood corpuscles. Whatever be the source of these cells, one of their functions is to pick up fine particles from the alveoli and to carry them along the bronchi and trachea to be expelled with the sputum. All observers have noted the presence of cells containing particles in the mucus of the trachea and bronchi after inhalation. The cells also take up particles after they have penetrated into the tissue of the lung. At any rate, all observers have found some of the particles inclosed in cells. In the peribronchial and perivascular lymphatics, according to Arnold, the particles are chiefly free, while in the peribronchial and perivascular lymphoid nodules they are all inclosed in cells. Tchistovitch[13] has developed the theory of phagocytes to the absorption of particles by the cells. In his experiments he used newly-born guinea-pigs to avoid confusion with soot particles which may have been derived from soot accidentally inhaled previously to the experiment. He exposed the animals to inhalation of soot for a couple of hours and killed them either immediately afterwards or at varying periods later. He states that the soot was first found lining the walls of the alveoli, but that there was never any evidence of absorption by the alveolar walls. Indeed, he states that the alveolar cells in the newly-born guinea-pig are non-nucleated and that the nuclei which are visible on the alveolar wall belong to the endothelium of blood-vessels and to the cells of the connective tissue. He says that the small nucleated cells in the alveolar wall are practically absent. The particles are, however, taken up after a few hours both in the alveoli and in the lymph spaces by phagocytes. In opposition to Arnold he states that the first cells to take up particles are lymphocytes, small macrophages, and polynuclear cells, and that at a later period come the epithelioid macrophages, which resemble alveolar epithelium, but which are derived from the endothelium of the blood-vessels and lymphatics. He says that in the blood-vessels there were also a large number of similar polynuclear leucocytes, lymphocytes, and macrophages. According to Arnold the particles are partially retained in the peribronchial and perivascular adenoid tissue and the remainder pass to the bronchial glands, but that the latter offer a complete barrier to the further progress of the particles. With regard to the rapidity of absorption Arnold found that after three hours with inhalation of ultramarine the particles were found in the perivascular and peribronchial lymphatics and also had reached the bronchial glands.

Passage from lung to pleura.—The older observers noted from time to time the presence of inhaled particles in the parietal pleura. Von Knauff, for instance, refers to the

[10] A joint paper by Washbourn and Pembrey upon the results of these inhalation experiments is in preparation.

[11] Staubinhalation and Staubmetastase, 1886.

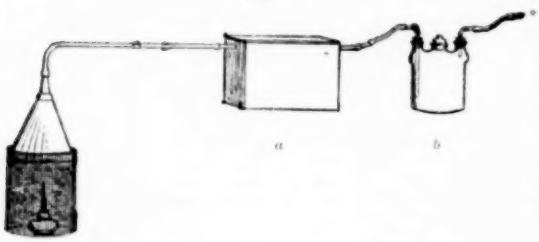
[12] Virchow's Archiv, Band viii., 1869, p. 326.

[13] Annales de l'Institut Pasteur, vol. iii., 1889, p. 337.

presence of particles in the adenoid tissue of the pleura mediastinalis. The lymphatics of the pulmonary pleura are filled with the particles after prolonged inhalation, these particles being derived from the superficial alveoli, the lymphatics of the latter opening into the pleural lymphatics. Grawitz by blowing fine particles of dust, &c., into the trachea of rabbits found isolated particles in the costal pleura after 24 hours. Aufrecht repeated this experiment, using an emulsion of cinnabar; in one case in two days he found particles in the pleura costalis and no adhesions of the pleura were present. Fleiner injected Indian ink into the pleural cavity and found (in from five to 45 minutes) that the corpuscles were rapidly taken up by the pleura costalis and the pleura mediastinalis, but not by the pleura pulmonalis. The absorption is dependent upon the normal respiratory movements, for by producing a pneumothorax absorption is prevented. In the mediastinal pleura the absorption appears to take place by means of the "lymph nodules" which are found filled with Indian ink. The particles pass partly into the lymph glands at the back of the chest (intercostal glands) and partly into the glands along the internal mammary artery, behind the manubrium sterni, and in front of the trachea. The supra-clavicular glands are also found filled with Indian ink. On the surface of the pleura the particles are massed together in slimy balls. It is not stated whether they are in cells or not. In the pleura there appears to be a natural passage of lymph from the cavity to the parietal pleura and any particles which should pass through the pulmonary pleura into the cavity are absorbed by the parietal pleura and taken to the glands. There would also appear to be a passage, though not an easy one, from the superficial alveoli of the lung to the pleural cavity through the lymphatics of the pulmonary pleura.

Pembrey and I have made a number of experiments with regard to the inhalation of particles. We used soot, cinnabar, and emery powder and experimented upon 14 rabbits. The apparatus used for the inhalation of the soot can be easily understood from the accompanying diagram (Fig. 13). The

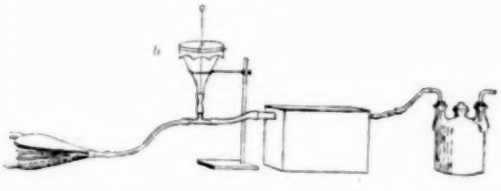
FIG. 13.



Arrangement of apparatus for inhalation experiment with soot.
* To aspirator.

animal was placed in an air-tight chamber (*a*) which was connected with an aspirator, a Wulff's bottle (*b*) partially filled with cotton-wool being interposed in order to retain the particles. The soot was generated by burning turpentine in the ordinary spirit-lamp; the lamp was surrounded by wire gauze (*c*), which was connected with a metal funnel and thus conducted the soot into the animal chamber. By a little adjustment it could easily be arranged that the chamber (*a*) was filled with soot although the animal was receiving plenty of oxygen, and anything more than a slight escape of soot into the room was avoided. For the inhalation of cinnabar and emery we used the apparatus represented by Fig. 14: (*a*) is the animal chamber, (*b*) is the funnel which contains the cinnabar or emery powder, which is closed at the top by a sheet of indiarubber through which a wire passes; the wire is used when the powder clogs the funnel; (*c*) is a pair of bellows, by means of which the powder is driven into the animal chamber. It was necessary for the bellows to be worked by an assistant as a mechanical arrangement was found not to be satisfactory. By means of the bellows it was possible to render the air in the animal chamber laden with particles, while at the same time supplying the animal with sufficient oxygen for respiration. At first we used an aspirator but we afterwards found that this was quite unnecessary. The animal chamber used in these experiments was similar to that which has been used by Haldane and Pembrey for respiratory work. It consists of a metal box with a glass top, the latter being sealed down by means of modelling wax. The inhalation lasted three-quarters of an hour and the animals were killed at varying periods. Some were killed immediately after the expiration of the inhalation, others 12 hours later, and others at the end of a week; the animals were killed by a blow at the back of the head. The trachea was at once ligatured, the thorax was then opened,

FIG. 14.



Arrangement of apparatus for inhalation experiment with cinnabar or emery.

and a cannula was passed into the pulmonary artery; the blood was washed out with saline solution at a temperature of from 37° to 38° C., and finally a picro-sublimate solution injected. The object of this procedure was to fix the alveoli in a condition of distension without disturbing their contents. The lungs and heart were then placed in picro-sublimate solution and hardened in the usual way.

We made in all 14 experiments. In all cases the air which was breathed by the animals was heavily laden with particles; the animals on removal from the chamber were completely black, red, or brown, according to the nature of the inhalation, and in all the animals which were killed at an early period the respiratory tract from the nose downwards was lined with particles. With regard to the soot inhalations we found by making control observations that great care had to be exercised in drawing conclusions, inasmuch as the ordinary laboratory rabbits frequently had a large number of cells filled with soot in their lungs. In the conclusions which we have drawn we have made every allowance for this fact. We have, moreover, made experiments upon newly-born guinea-pigs.

The two chief lines of defence against the entrance of particles into the lungs are the nose and larynx; the mucus over the turbinate bones retains an enormous amount of dust. Animals upon which tracheotomy has been performed are therefore in an unfavourable condition and exact conclusions cannot be drawn from experiments made upon them. Violent respiratory movements facilitate the entrance of particles into the lungs and easily lead to rupture of minute blood-vessels in the lungs. Small areas of collapse are frequently seen in the lungs of animals which have inhaled soot or dust. Particles getting into the alveoli are then got rid of in the following manner: some pass through into the lymphatics and either reach the bronchial glands, where they are retained, or are retained in the adenoid tissues (peribronchial and perivascular) and thence may be excreted to the bronchi by means of cells, whilst some are taken up by cells and thus passed into the bronchi and are ultimately extruded through the upper air passages.

UNIVERSITY OF OXFORD.—There will be an election at Brasenose College, Oxford, in March, 1903, to an Ordinary Fellowship of the value of £200 a year, tenable for seven years, after an examination in the subjects recognised in the Honour School of Animal Physiology. Weight will be attached to such work, whether published or not, which may be submitted exhibiting research in some subject of physiological study. The examination, which may, at the discretion of the examiners, include a practical examination in one or more branches of the subject, will begin on Tuesday, Feb. 24th, and will not in any case last more than four days. Candidates, who must have passed all the examinations required by the University for the degree of Bachelor of Arts, are requested to send to the Principal of the College their names and testimonials, together with any work which they may submit, on or before Jan. 31st.

A NOTE ON THE CAUSATION AND TREATMENT OF THROMBOSIS OCCURRING IN CONNEXION WITH TYPHOID FEVER.[1]

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AND
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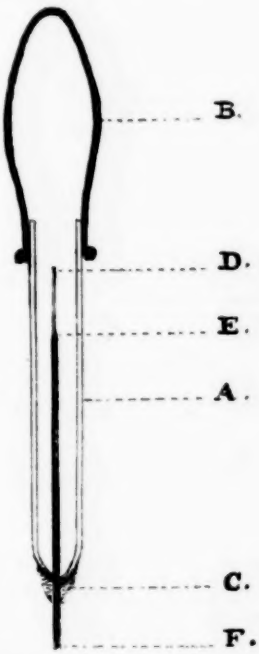
WE have recently, in the hope of learning something of the causes of the thrombosis which is met with in connexion with typhoid fever, addressed ourselves to the task of making a series of comparative observations on the blood in (1) typhoid fever patients in the acute stage of the disease, (2) convalescents from typhoid fever, and (3) normal persons. Led by considerations which will presently appear, we measured in each case the coagulation time of the blood and its content in lime salts. As a preliminary, a word or two may be devoted to the methods employed.

METHODS.

Determination of coagulation time.—The measurement of the coagulation time was in every case undertaken at half blood heat or at a temperature closely approximating to this. The capillary coagulation tubes employed were made from ordinary glass tubing drawn out in the flame. They were calibrated by introducing into the wide upper end of the tube in each case five cubic millimetres of mercury, only those tubes being selected for use where this volume of mercury formed in the capillary stem a column exactly five centimetres in length. In carrying out this calibration the technique described by one of us in a recent number of THE LANCET[2] was followed. Some minor modifications were, however, introduced. The first of these was that, blowing out the tubes in the ordinary way over filter paper, we adjudged coagulation to be complete as soon as a definite coagulum made its appearance, irrespectively of the fact that such a clot might not be adhering firmly to the walls of the capillary tube.[3] Another modification which we introduced was that in our later observations—and these include all those undertaken upon normal men—we made it a practice to fill in our series of coagulation tubes from a succession of slight pricks made as they were required, instead of from one deep prick made at the outset. In this way we altogether avoid the fallaciously accelerated coagulation which is obtained from undue pressure on the finger and the occurrence of coagulation in the wound. Lastly, we employed for the measurement of the standard volume of mercury a special form of capillary pipette which takes up from the reservoir in an automatic manner the exact quantity of mercury which is required for the calibration (see figure).

This automatic pipette is made as follows. Taking in hand a capillary pipette such as might serve for the estimation of blood coagulability we fuse it near the point in the flame of a peep-light, draw it out here into an absolutely hair-fine tube, and break this across. A five cubic millimetre volume of mercury is now, as in the calibration procedure described above, introduced. This column of mercury is driven down the capillary stem, expelling the air in front of it, until it is definitely arrested by the narrowing of the lumen. By the fact of this arrest the hair-fine tube approves itself to be for all practical purposes closed to mercury. Noting now the level of the proximal end of the mercury column we mark this with a file and here snap across the capillary stem, obtaining the measuring tube we require. We now break off from the mouth-piece of our original pipette what remains of the capillary stem, and invaginate into the butt end thus obtained our capillary measuring tube. As shown in the figure we dispose it so that its filiform extremity may be uppermost and entirely under cover of the outer tube. Finally, with sealing-wax we make an air-tight joint between the inner and outer tube. When the pipette is to be brought into use it is furnished with a tightly-fitting rubber teat, air is expelled from the interior, and the distal extremity (F) of the inner (capillary) tube is brought below the surface of the mercury. This last, under the influence of the negative pressure, will now run



The figure shows in section the construction of the automatic pipette. A, Piece of ordinary glass tubing forming the barrel of the pipette. B, Rubber teat. C, Sealing wax forming an air-tight joint between the outer barrel of the pipette and the interior capillary tube. D, E, Upper extremity of the interior capillary tube drawn out into an absolutely hair-fine but patent extremity. E–F, Interior capillary tube filled in with mercury.

up until it is arrested at the point E before mentioned, where the lumen of the capillary tube is too narrow to admit mercury. By the aid of this simple automatic pipette any desired number of standard volumes of mercury may be measured out in an expeditious and accurate manner.

Estimation of the content of the blood in calcium salts.—The method outlined by one of us elsewhere[4] was employed. The essential feature of the method is the mixture in capillary tubes of a succession of progressive dilutions of a solution of neutral oxalate of ammonium with in each case an equal volume of blood. The content in calcium salts—or more strictly, the amount of calcium salts available for the purposes of blood coagulation—is appraised by noting the minimum concentration of ammonium oxalate required to keep the blood fluid. Coagulation is judged to have been averted when no trace of clotting appears in an oxalate tube within an hour after coagulation has taken place in the blood unmixed with oxalate. The details of the procedure are as follows. Starting from a solution of 1 in 500 of oxalate of ammonium in 0·75 per cent. salt[5] solution, a progressive series of dilutions are made, using normal salt solution as a diluent. The dilutions which will ordinarily be required in the case of human blood will be dilutions of 1 in 800 to 1 in 2000 or over.[6]

[1] A paper read before the Royal Medical and Chirurgical Society on Nov. 25th, 1902.

[2] THE LANCET, July 5th, 1902, p. 11.

[3] This modification in the procedure was dictated by the fact that where the coagulability of the blood is greatly reduced the coagulum may never become firm enough to block the tube.

[4] Transactions of the Pathological Society of London, 1900, p. 304, and THE LANCET, loc. cit., 1902.

[5] Chemically pure reagents must be employed.

[6] For the method devised by one of us for making exact dilutions in an uncalibrated capillary tube see THE LANCET, July 5th, 1902 (introductory

Having made our series of dilutions we now place a small drop of each successive dilution—measured out in an uncalibrated capillary pipette—in series upon the surface of a microscopic slide. This done, we fill into the same pipette from the patient's finger a succession of precisely similar measures of his blood. We take, of course, for each successive oxalate solution a separate volume of blood, dividing off by a series of air bubbles. The required number of measures of blood obtained, we blow these out severally with a minimum of delay into the successive drops of oxalate solution, in each case mixing. Our pipette empty, we go over the whole succession of mixtures a second time to secure that mixture shall be quite complete. The final step in the procedure is to dispose of our oxalated bloods in such a manner as to observe their behaviour. We may, if we please, fill them each into a separate capillary tube and test their condition with respect to coagulation by blowing them out, after the expiration of the necessary interval, upon filter paper. Or—and this when practice has been acquired is more convenient—we may, dividing off as before by air bubbles, fill the whole series of oxalated bloods into the capillary pipette which has served for the preliminary operations of measuring and mixing. If we follow this last procedure we place the capillary pipette upright and judge of the result after a sufficient interval, taking note whether the red blood corpuscles have sedimented, leaving a supernatant layer of plasma, or whether a filament of clot occupies the centre and a clear layer of serum has appeared along the walls of the tube. For ward work it will be found convenient to bring to the bedside instead of the series of watch-glasses containing the oxalate dilutions, a capillary pipette (sealed up after it has been drawn out into a hair-fine tube) filled in with a series of equal measures of the dilutions divided off by air bubbles. The pipette which does duty as a storage-tube for these dilutions will be available for the subsequent operations as described above if we take the precaution of marking off upon the capillary stem, before we empty it, a length corresponding to the particular volume of fluid which is to serve as our unit of measure.

TABLE I.—*Normal Men: Showing the Blood Coagulation Time and the Strengths of Neutral Ammonium Oxalate Solution which respectively averted and failed to avert Coagulation when added to the Blood in Equal Volume.*

Initials of the persons who furnished the blood.	Coagulation time, estimated in capillary tubes of the new standard size at 18·5° C. (half blood-heat).	Concentration of the solutions of oxalate of ammonium solution which were mixed with the blood for the purpose of estimating its content in calcium salts.					
		1 in 800 (5 in 4000).	1 in 1000 (4 in 4000).	1 in 1333 (3 in 4000).	1 in 1600 (2·5 in 4000).	1 in 2000 (2 in 4000).	1 in 4000 (1 in 4000).
A. W.	6′ 30″	0	0	Trace	—	Clot.	Clot.
C. K.	7′ 10″	0	0	,,	—	,,	,,
R. C.	11′	0	0	Clot.	—	,,	,,
G. E. V.	8′ 15″	0	0	,,	—	,,	,,
A. A.	7′ 30″	0	0	0	—	,,	,,
S. D.	5′ 45″	0	0	0	—	,,	,,
R. W.	6′ 10″	0	0	0	—	,,	,,
J. S.	9′ 15″	0	0	0	—	,,	,,
J. R.	8′ 10″	0	0	0	—	,,	,,
B. S.	10′ 15″	0	0	0	—	,,	,,
R. E. S.	9′	0	0	Trace.	—	,,	,,
J. B.	10′ 10″	0	0	Clot.	—	,,	,,
O. N.	8′	0	0	,,	—	,,	,,
W. B. L.	4′	0	0	Trace	—	,,	,,
G. K. V.	8′ 45″	0	0	0	0	,,	,,
N. M.	8′	0	Clot.	Clot.	Clot.	,,	,,
N. C.	6′	0	0	0	0	,,	,,
J. M.	8′	0	0	0	Clot.	,,	,,
C. P.	9′	0	0	Trace.	,,	,,	,,
D. B.	6′ 30″	0	0	Clot.	,,	,,	,,
W. R.*	5′	Clot.	Clot.	,,	,,	,,	,,
P. L.	7′	0	0	0	,,	,,	,,
T. Y.	8′ 20″	0	0	0	,,	,,	,,
M. M.†	6′	0	0	0	,,	,,	,,
M. M.†	3′ 30″	Clot.	Clot.	Clot.	,,	,,	,,
W. R.*	6′ 30″	,,	,,	,,	,,	,,	,,
T. H.	6′	0	0	,,	,,	,,	,,

* The observations here in question were made at an interval of a few days.

† The observations here in question were made at an interval of about 48 hours.

portion of paper, Section I. By the aid of the method there described the dilutions employed in the observations incorporated in Table I. were obtained as follows: the 1 in 800 dilution by taking up into the capillary pipette five volumes of the 1 in 500 dilution and three volumes of diluting fluid; the 1 in 1000 dilution by mixing equal volumes of the 1 in 500 solution and of normal salt solution; the 1 in 1333 solution by taking three volumes of the 1 in 1000 solution and one volume of salt solution; the 1 in 2000 and the 1 in 4000 dilutions by taking up in each case one volume of the 1 in 500 dilution, and in the one case three, and in the other case seven, volumes of diluting fluid.

RESULTS OF THE BLOOD EXAMINATIONS.

Results of the blood examinations undertaken on normal men.—In Table I. will be found arranged in tabular form the results of a series of blood examinations undertaken upon normal men. A consideration of these brings out the fact that there is as between different individuals and, we may add, between the blood drawn off at different times from the same individual, a considerable difference not only with respect to the blood coagulation time but also with respect to the content in lime salts. We find that the coagulation time, determined as explained above, may in the normal male adult vary between three and a half minutes and 11 minutes and the minimum strength of oxalate of ammonium solution required to avert coagulation from 1 in 800—this being altogether exceptional—to 1 in 2000. Of importance in connexion with the method of measuring the content of the blood in lime salts is the fact that it comes out clearly in Table I. and also, as will appear, in the subsequent tables, that a blood which contains less calcium salts than a control blood is not always less coagulable; nor, again, is a blood which contains more lime salts necessarily more coagulable than the control. The content of a blood in lime salts as estimated by this method is, in fact, far from being an index of its coagulability.

TABLE II.—*Typhoid Patients in the Acute Stage: Showing the Results of the Blood Examinations undertaken on Typhoid Fever Patients (Soldiers) in the Acute Stage of the Disease.*

Serial number.	Notes with regard to the clinical features of the case and the stage of the disease at the date of the observation.	Coagulation time.	Estimation of content of blood in calcium salts—i.e., concentration of oxalate of ammonium solution which (added to the blood in equal volume) just sufficed to avert coagulation.
Case 1	Fourth week of pyrexia; case has been complicated by epistaxis and pleural effusion.	30′	1 in 2000
,, 2	Beginning of fourth week of pyrexia.	12′	1 ,, 750
,, 3	Eleventh day of relapse.	15′	1 ,, 900
,, 4	About seventeenth day of pyrexia.	22′	1 ,, 2000
,, 5	Uncomplicated case; temperature falling by lysis.	15′	1 ,, 2500
,, 6	About fourteenth day of pyrexia.	30′	1 ,, 1500
,, 7	Tenth day of relapse.	30′	1 ,, 900
,, 8	Tenth day; very mild case.	5′	1 ,, 900
,, 9	Fourth week of pyrexia; complicated by pneumonia, capillary bronchitis, and on day of observation by acute femoral thrombosis.	1′ 45″	1 ,, 700
,, 10	Uncomplicated case; beginning of fourth week.	5′	1 ,, 600
,, 11	Fourth day of relapse; history of hæmorrhages in primary attack.	17′	1 ,, 1000
,, 12	Beginning of fourth week of pyrexia; much bronchitis.	16′	1 ,, 900

Results of the blood examinations undertaken upon typhoid fever patients during the acute stage of the disease.—These results are presented in Table II. The most noteworthy feature here is the general diminution of blood coagulability.[7] Let it be observed also that the diminished coagulability furnishes an explanation of the serious hæmorrhages which may occur from comparatively small lesions in the typhoid intestine. Exceptions to the prevailing rule of the association of a condition of diminished blood coagulability with the acute stage of typhoid fever are furnished by Cases 8, 9, and 10. The former of these was a very mild case. In the last, favoured no doubt by the pneumonia and bronchitis which were marked features in this case, femoral thrombosis developed in an acute manner. The symptoms had developed only a few hours before the blood was withdrawn for examination.

Results of the blood examinations undertaken upon convalescents from typhoid fever.—The results we have obtained are incorporated in Table III. The salient feature

TABLE III.—*Showing the Results of the Blood Examinations undertaken on Soldiers convalescent from Typhoid Fever.*

Serial number.	Notes with regard to the clinical features of the case and the stage of convalescence at which the patient had arrived at the date of the observation.	Coagulation time (followed in brackets by the coagulation time as previously determined in the stage of pyrexia).	Estimation of content of the blood in calcium salts—i.e., concentration of ammonium oxalate solution which (added to the blood in equal volume) just sufficed to avert coagulation.
Case 1	Fourteenth day of apyrexia; three weeks subsequent to development of slight femoral thrombosis.	2′ [30″]	1 in 900
,, 2	Twenty-fourth day of apyrexia.	4′ 15″ [12″]	1 ,, 700
,, 3	First day of apyrexia.	4′ 30″ [15″]	1 ,, 1500
,, 4	Seventh week of apyrexia; eight days after development of slight femoral thrombosis.	1′ 10″ [22″]	1 ,, 700
,, 5	Twentieth day of apyrexia; after taking citric acid 2·5 grammes three times a day for six days.	4′ [15″]	1 ,, 1500
,, 6	Second day of apyrexia.	4′ [30″]	1 ,, 700
,, 7	Seventh day of apyrexia.	10′ [30″]	1 ,, 1500
,, 8	First day of apyrexia.	5′ [5′]	—
,, 13	Thirteenth day of apyrexia.	35′	1 in 700
	Fortieth day of apyrexia.	11′	1 ,, 900
,, 14	Fifty-fifth day of apyrexia; forty-fifth day after development of thrombosis.	1′ 30″	1 ,, 700
,, 15	Third week of apyrexia.	3′ 15″	1 ,, 700
,, 16	Fourteenth week of apyrexia.	9′	1 ,, 550
,, 17	Third week of apyrexia.	9′ 30″	1 ,, 700
,, 18	Third week of apyrexia.	10′	1 ,, 800
,, 19	First day of apyrexia.	7′	1 ,, 700
,, 20	Fifth day of apyrexia.	4′ 30″	—
,, 21	Fifth day of apyrexia.	5′	—
,, 22	Tenth day of apyrexia.	9′ 30″	—

in connexion with these results is the marked increase of blood coagulability which accompanies convalescence from typhoid fever. Taking the first eight cases—all cases which were examined both during the course of the pyrexia and after the return of the temperature to the normal—we find that the coagulation time of the blood was, on the average, four and a half times shorter in the convalescent stage than during the course of the fever (four and a half minutes as compared with 20 minutes). In Cases 1, 4, and 14—and to these may be added Case 9 from Table II.—blood coagulation was abnormally rapid. In each of these cases femoral thrombosis had supervened. And these were the only cases among those examined in which it had occurred. Somewhat exceptional, though not standing entirely by itself, is Case 13. Here the diminished coagulability which has been shown to be a feature of the acute stage of the disease is seen to have persisted in the convalescent period. On the thirteenth day after the return of the temperature to the normal the blood coagulation time was found to be 35 minutes and this in spite of the fact that the blood contained more than the normal quantum of lime salts. On the fortieth day the coagulation time was still somewhat prolonged. Turning our attention now more particularly to the results of the calcium salt estimations we see that the average content of the blood in lime salts as estimated by the oxalate method is, in the case of these typhoid convalescents, about twice that of the normal blood.

Therapeutical significance of the above facts.—Limiting ourselves here to the consideration of the question of the therapeutics of thrombosis, we may, as a preliminary to setting forth the treatment we adopted, direct attention to a fundamental point in connexion with intra-vascular coagulation. Arguing from what occurs *in vitro* we might expect that in the case where a thrombus forms in a vein the patency of the vessel would be rapidly restored by the contraction of the clot. We do, as a matter of fact, see this happening in connexion with the intra-vascular thrombosis which supervenes upon the injection of cell nucleo-albumins (Wooldridge's "tissue fibrinogens"). If the animals survive this thrombosis for even a few hours we find the thrombus which previously blocked the vessel represented by a mere filament of clot. But the conditions are here quite special. As pointed out by Wooldridge, there supervenes here upon the "positive phase" of increased coagulability which culminates in the thrombosis a "negative phase" of diminished or abolished blood coagulability. By reason of the supervention of this "negative phase," the thrombus, when once formed, does not receive any further accretions of fibrin from the circulating blood.

Quite different are the circumstances when the blood maintains its original coagulability. Here, as soon as any blood flow is re-established past the clot, additional fibrin will be deposited and the thrombus will grow larger and firmer until at last it is converted into a solid plug of "white blood-clot" which definitely blocks the vessel. Probably in this way are sown the seeds of the permanent trouble so often seen after typhoid thrombosis and we may add after phlegmasia alba dolens. Recognising the practical importance of the after-deposition of fibrin upon the thrombus, the coagulation time of the patient's blood subsequently to the development of thrombus is a matter of concern. A reference to Table III. will show that in each of the cases of thrombosis—and these were examined respectively 8, 21, and 45 days after the date of the original thrombosis—the blood was found to be abnormally coagulable. The blood conditions were thus, at these dates, still favourable to a deposition of fibrin upon the clot. We proposed to ourselves, both in these cases and in the case of acute thrombosis referred to above as having occurred during the pyrexial stage of the fever, to place an obstacle in the way of this deposition of fibrin by diminishing the patient's blood coagulability. With this view we administered a decalcifying agent[8]—citric acid. In Table IV. will be found details of the amount of citric acid given and of the effect of the treatment. It will be seen that in each of the seven patients observed the exhibition of citric acid was followed by a decalcification of the blood and a corresponding diminution of its coagulability. Hand in hand with the blood changes went, in the case of acute thrombosis already referred to, a rapid alleviation of the symptoms.

Inferences with regard to the causation of the thrombosis which occurs in connexion with typhoid fever.—Turning, in conclusion, to the problem as to what is the cause of the thrombosis so frequently seen in connexion with typhoid fever and scrutinising the results of the blood examinations to see whether they shed any light upon this problem, our attention fastens on the fact that the quantum of lime salts in the blood of the typhoid convalescents examined was

[7] It may be remarked that a comparable diminution in the coagulability of the blood supervenes upon the inoculation of large doses of "anti-typhoid vaccine."

[8] For experiments on the effect of the exhibition of decalcifying agents (citric acid and soap) see previous papers by one of us, Brit. Med. Jour., July 14th, 1894, and Transactions of the Pathological Society, vol. li., part iii., 1900.

TABLE IV.—EXHIBITING THE EFFECT OF THE DECALCIFYING TREATMENT ADOPTED IN THE CASE OF TYPHOID CONVALESCENTS POSSESSING AN UNDULY COAGULABLE BLOOD.

Initials of patients.	Date of observation.	Notes with regard to dietary and treatment.	Notes with regard to clinical symptoms at date of observation.	Blood coagulation time in standard tubes at 18·5°C.	Estimation of content of blood in calcium salts—concentration of ammonium oxalate solution which, when added in equal volume to the blood, respectively averted and failed to avert coagulation.				
					1/600	1/800	1/1000	1/2000	1/3000
J. B.	8/7/02	Milk diet.	Typhoid fever, fourth week, complicated by pneumonia and capillary bronchitis; to-day acute development of femoral thrombosis.	1′ 45″	0	0	Clot.	Clot.	Clot.
	10/7/02	Ditto + citric acid, four grammes (one drachm) three times a day (since 8/7/02).	Pain and swelling in the limb less; fever continues.	6′	—	—	—	—	—
	11/7/02	,,	No change.	7′ 30″	0	0	Clot.	Clot.	Clot.
	13/7/02	,,	Œdema and pain in the limb have quite disappeared; fever continues.	7′ 15″	0	0	,,	,,	,,
	14/7/02	,,	No change.	5′ 45″	0	0	0	,,	,,
B. D.	7/7/02	Convalescent diet, including milk (about two pints).	Fourteenth day of apyrexia; twenty second day after slight thrombosis.	2′	0	0	Clot.	Clot.	Clot.
	14/7/02	Ditto + citric acid 2·5 grammes (about 36 gr.) three times a day (since 12/7/02).	—	3′ 45″	0	0	Trace.	,,	,,
	19/7/02	,,	—	Over 15′	0	0	0	,,	,,
C. D.	8/7/02	Convalescent diet, including milk (about two pints).	Fifty-fifth day of apyrexia; forty-fifth day after thrombosis.	1′ 30″	0	Clot.	Clot.	Clot.	Clot.
	14/7/02	Ditto + citric acid 2·5 grammes three times a day (since 12/7/02)	—	3′ 15″	0	Trace.	,,	,,	,,
	19/7/02	,,	—	10′	0	0	,,	,,	,,
J. A.	8/7/02	Convalescent diet, including milk (about two pints).	Seventh week of apyrexia; seventh day after thrombosis.	1′ 10″	0	Clot.	Clot.	Clot.	Clot.
	15/7/02	Ditto + 2·5 grammes of citric acid three times a day (since 12/7/02)	—	5′	Trace.	,,	,,	,,	,,
	20/7/02	,,	—	Over 20	0	0	,,	,,	,,
D. R.	8/7/02	Convalescent diet, including milk (about two pints).	Third week of apyrexia.	3′ 15″	0	Clot.	Clot.	Clot.	Clot.
	15/7/02	Ditto + 2·5 grammes of citric acid three times a day (since 12/7/02).	—	4′ 45″	0	0	Trace.	,,	,,
	19/7/02	,,	—	13′ 30″	0	0	Clot.	,,	,,
R. D.	8/7/02	Convalescent diet, including milk (about two pints).	Fourteenth day of apyrexia.	9′	Clot.	Clot.	Clot.	Clot.	Clot.
	15/7/02	Ditto + citric acid 2·5 grammes three times a day (since 12/7/02).	—	9′ 30″	0	0	0	,,	,,
	19/7/02	,,	—	10′	0	0	Clot.	,,	,,
F. D.	8/7/02	Convalescent diet, including milk (about two pints).	Third week of apyrexia.	9′ 30″	0	Clot.	Clot.	Clot.	Clot.
	16/7/02	Ditto + citric acid 2·5 grammes three times a day (since 12/7/02).	—	Over 13′ 30″	0	0	,,	,,	,,
	19/7/02	,,	—	Over 30′	0	0	0	,,	,,

greatly in excess of that in the normal blood. This fact suggests that the increased coagulability during the convalescent stage may be dependent upon an excess of lime salts. Evidence pointing in the same direction is afforded by the circumstance that the blood coagulation times of our typhoid patients, after the content of their blood in lime salts had been brought within the limits of the normal, were (as is brought out by a comparative study of Tables IV. and I.) longer than those of normal bloods, instead of being shorter, as we should expect them to be if the increased coagulability were dependent upon an increase in the albuminous elements which enter into the composition of the fibrin.

When we consider whence the excess of lime salts which appears to be present in the blood of the typhoid convalescent can be derived we recognise that it must be obtained from the milk which, for the most part, constitutes the exclusive dietary of the patient. Cow's milk, be it noted, contains 1 part in 600 of CaO as compared with 1 part in 800 contained in lime water.[*] If we have in the milk dietary of the typhoid patient the key to the problem of the frequency of thrombosis in the period of convalescence we have probably obtained a clue also to the resolution of certain other problems; in particular the problem of the frequently beneficial effect of a milk dietary on "serous hæmorrhage" from the kidney and the comparative rarity of thrombosis after acute fevers, such as Malta fever, where a milk dietary

[*] In the case of our patients milk formed a very important element of their dietary for a period of many weeks after convalescence.

is not imposed upon the patient. We obtain at the same time indications for the prophylaxis and after-treatment of thrombosis, both when it occurs in connexion with typhoid fever and when it occurs in connexion with other diseases. The remedial measure which would seem indicated is the exhibition of citric acid. The same treatment, initiated as soon as the danger of intestinal hæmorrhage has been surmounted, would be appropriate for prophylaxis of typhoid thrombosis. Or, as an alternative, we might, with a view to restricting the intake of lime salts, appropriately undertake a partial decalcification of the milk. One of us has already pointed out[10] that a partial decalcification such as is here contemplated is advisable also from the point of view of rendering the milk more easily digestible and of preventing constipation. The partial decalcification in question can be readily effected by adding to the milk from 0·25 to 0·5 per cent. of citrate of soda (from 20 to 40 grains per pint).

OBTURATORS.

BY T. S. CARTER, L.D.S. R.C.S. ENG.,
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I WAS asked by Mr. H. Littlewood to see the following cases of excision of the upper jaw with a view to their restoration by mechanical means.

CASE 1.—A man, aged 51 years, was admitted into the Leeds General Infirmary on Sept. 26th, 1898, suffering from carcinoma of the right superior maxilla. On Oct. 10th the upper jaw was excised by Ferguson's operation. The patient made a good recovery, and on the 31st I took wax impressions of his mouth. On Nov. 4th I fitted the obturator (Fig. 1) and on the 9th the patient was most comfortable and could speak quite distinctly. On the same day he was

FIG. 1.

Obturator employed in Case 1.

shown at the meeting of the Leeds and West Riding Medico-Chirurgical Society.

CASE 2.—The patient, a male, was admitted into the Leeds General Infirmary on Sept. 23rd, 1901, suffering from osteoma of the right superior maxilla. The growth was a pure osteoma and filled up the whole of the antrum of Highmore. It also protruded into the nose, the mouth, and the orbit, and pressed out the cheek. On Oct. 21st the upper jaw was excised by Ferguson's operation. On Nov. 11th I took wax impressions of the mouth. On the 14th I fitted the obturator (Fig. 2) and on the 27th it was being worn with great

FIG. 2.

Obturator employed in Case 2.

comfort (Figs. 3 and 4). There was no tendency to ulceration and all the surfaces were healing well. In March, 1902, the patient was photographed. His general expression was

FIG. 3.

Before fitting obturator.

greatly improved and he was not only free from uncomfortable symptoms of any kind, but as an indication of complete restoration he found that he could whistle readily. On

[10] Wright, THE LANCET, July 22nd, 1893, p. 194.

Dec. 6th, 1901, the patient was shown at a meeting of the Leeds and West Riding Medico-Chirurgical Society.

The obturators were made of vulcanite and were so shaped that the roof of the mouth was restored and food was prevented from escaping into the nasal cavity. They each had

FIG. 4.

After fitting obturator.

portions which projected upwards to hold the cheek out and to support the floor of the orbit. Teeth were added which not only greatly improved the appearance but enabled the patient to control his food and to retain it in the position where he finds that he can most readily masticate it.

In making this form of obturator there are two difficulties to overcome. The first is that of taking the "impressions" for the purpose of having models made. The beeswax must enter and fill the cavity left by the removal of the superior maxilla, in addition to giving an impression of the remaining half of the palate and the teeth. The limit of extension of the jaws will not allow of the removal without damage of the necessary bulk of material, even if it could be successfully inserted. I therefore adopted the following method. Having softened the beeswax I fill the cavity exposed by the removal of the maxilla by inserting a portion of suitable size and by digital pressure restore in wax the roof of the mouth. Having with a sharp instrument indented the exposed surface and then covered it with a thin coating of oil or glycerine, the impression of the rest of the upper jaw is taken in the usual way. Having removed the latter the plug may be dislodged from the nasal cavity by means of a hooked instrument and the two portions may be fitted together as indicated by the indents made. The second difficulty is in making the obturator stay *in situ*, as there is no anchorage to be obtained on the side where the palate has been removed nor can suction be obtained. I found, however, that by making the external surface of the palate convex by turning the alveolar border and teeth well inwards, the muscles of the cheek acting on this surface have a lifting tendency which helps to keep the plate in position.

Leeds.

A METHOD OF REMOVING SMALL METALLIC FOREIGN BODIES FROM THE STOMACH WITHOUT EXTERNAL OPERATION.

BY STEPHEN MAYOU, F.R.C.S. ENG.,
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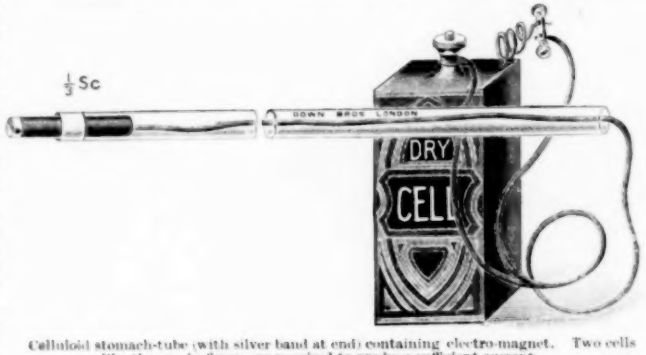
SINCE the introduction of x rays has rendered it possible to observe the size, position, and shape of metallic foreign bodies which have entered the stomach by accident, and considering their great danger, it was suggested to me that it might be possible to remove these foreign bodies by means of an electro-magnet guided by x rays. For this purpose I had made a small electro-magnet two inches in length, round, and five-sixteenths of an inch in diameter, the ends and centre of which are made of soft iron and wound in the ordinary way, having a lifting power of a quarter of a pound when connected with stiff wires to a four-volt battery (see figure). This magnet is inserted into an ordinary stomach-tube with the end cut off or preferably a tube with a perfectly smooth inner surface, so that the magnet can glide up and down with ease by pulling on the stiff connecting wires. A narrow silver band is placed on the outer side of the stomach end of the tube, so that the end of the tube is easily seen in the stomach, the rest of the tube not throwing any shadow by x rays. The tube containing the magnet, protruding a quarter of an inch, is next passed into the stomach, preferably under an anæsthetic. The x-ray tube is placed beneath the patient, who lies on his back over the drum of a Mackenzie-Davidson couch, and the screen is placed on the abdomen. The x-ray tube is then excited and the magnet is brought into contact with that part of the foreign body most suitable to draw into the tube; the current is then allowed to flow through the magnet and the foreign body is drawn into the tube by means of the connecting wires. When the foreign body is in the tube, as is shown by its having passed the silver ring, the tube, magnet, and foreign body are withdrawn together. Various sizes and shapes of magnets and tubes can be made to suit the size of the foreign body and the patient's œsophagus.

A boy, aged two years and three months, was admitted into King's College Hospital on July 16th under the care of Mr. F. F. Burghard, having the day previous to admission whilst playing swallowed a large-sized hairpin. On examination by the x rays the shadow of the pin was seen just to the right of the middle line below the liver shadow, in a vertical position, apparently across the pyloric orifice; there were no symptoms. Two days later it was still in the same position, only lying horizontal with the blunt end towards the duodenum, and on the following day had apparently passed into it. On Sept. 4th, seven weeks after admission, the hairpin had apparently not changed its position and it was still lying to the right about the level of the umbilicus. The patient had had attacks of diarrhœa and vomiting. Mr. Burghard kindly handed the case over to me for treatment. The patient was anæsthetised with



Celluloid stomach-tube (with silver band at end) containing electro-magnet. Two cells like the one in figure are required to produce sufficient current.

chloroform and the tube containing the magnet was passed down the œsophagus into the stomach; some slight difficulty was experienced in getting the magnet past the larynx, it being a little too long to take the pharyngeal curve easily. The magnet was then protruded half an inch by means of the stiff connecting wires from the tube, the room was darkened, and the rays were turned on. Both magnet and hairpin were plainly seen and the magnet was brought into contact with the blunt end of the hairpin; the current was then allowed to flow through the magnet and the pin was withdrawn inside the tube by pulling on the connecting wires. The tube, magnet, and pin were then withdrawn together. The patient left the hospital the same day.

The instrument is now made by Messrs. Down Bros., who have substituted a celluloid tube in place of the ordinary stomach-tube.

Weymouth-street, W.

THE CLINICAL ASSOCIATIONS OF REDUPLICATED FIRST SOUND.[1]

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IT is no uncommon experience in the course of the routine examination of the heart to find that the ordinarily single first sound is replaced by a sound which is definitely double. Notwithstanding the large number of observers who have given their attention to reduplications of the first sound, opinions are still divided, both as to the cause of the phenomenon and the clinical significance that attaches to it.[2] In the present communication, based on the study of a series of 109 cases which have come under the writer's notice, an attempt will be made to elucidate some of the matters in question.

Reduplication of the first sound is never perfect in the sense that there are two separate sounds divided by an appreciable interval of silence: it is more accurately described as an interruption in the uniformity of the sound by two points of emphasis. There is, in fact, continued sound with double accent. The two accentuated parts are alike in quality; as regards loudness they often differ, the accent falling more usually on the second than on the first of the two parts. In point of time they are heard in close succession, and both parts fall within the period of ventricular systole as timed by the impulse. The duplicate character of the sound is generally evident at the apex beat, but not with such distinctness as at a point a short distance to the right, intermediate between the apex beat and the sternal margin: it is seldom appreciable above the level of the fourth cartilage.

The phenomenon first described by Bouillaud[3] in the year 1847 as the *bruit de galop*, was probably an example of the reduplicated first sound. He noted the fall of the accent on the second part of the double sound, and since the rhythm thus produced resembles more or less closely that of a galloping horse he gave to it the appropriate name of *bruit de galop*, a term which has the merit of being descriptively accurate, while it involves no unproved theory as to the mechanical production of the double sound.

It is important to distinguish the *bruit de galop* with the rhythm of iambic verse, ⏑ — | ⏑ —, from the so-called "cantering rhythm," comparable to the dactyl, — ⏑ ⏑ | — ⏑ ⏑. The term "cantering rhythm" should be reserved for instances of simulated reduplication of the second sound,[4] for the earliest recorded description of which we are also indebted to Bouillaud.[5] He gave to it the name *bruit de rappel*, and compared its rhythm to "the noise of the hammer, which, after striking the iron, falls on the anvil, rebounds, and falls again motionless." The clinical significance of the *bruit de rappel* is entirely different from that of the *bruit de galop*.

From an analysis of the cases on which this paper is based it appears that the common clinical conditions with which a reduplicated first sound may be associated are as follows: 1. Valvular lesions of the heart, for the most part mitral regurgitation. There were eight examples of this, in all of which the mitral valve was incompetent. 2. Arterial degeneration, with raised systemic tension and accentuated aortic second sound. The reduplication of chronic interstitial nephritis a condition which is always associated with cardio-vascular lesions, falls under this heading. There were 32 examples in all, of which four gave a definite history of strain, in eight there was evidence of lead poisoning, and 11 were associated with renal trouble. 3. Pulmonary emphysema, with or without bronchitis (20 cases). 4. Anæmia, chiefly of the chlorotic type, with the usual circulatory disturbances, including an accentuated and sometimes reduplicated pulmonary second sound (11 cases, all in females of ages varying from 13 to 26 years). 5. In cases whose prevailing symptoms are those of dyspepsia—discomfort after food, flatulence, constipation, and the like—there may be reduplication of the first sound without any other evidence of cardiac inefficiency; the present series includes 31 such cases, of whom 26 were women. There remain seven cases which do not fall into any of the preceding groups.

One or two points of interest arise from the analysis. *Valvular lesions* other than mitral incompetence were rare. In three cases an aortic systolic murmur was heard as well as the mitral murmur; no cases were met with of reduplication with established mitral stenosis or with aortic regurgitation. The second group, comprising cases of arterial degeneration with high tension, is remarkable for the large number in which the occupation involved contact with *lead*, with or without other manifestations of plumbism. The association is so frequent that reduplicated first sound must be regarded as one of the usual clinical signs of the cardio-vascular lesions caused by lead; indeed, I believe it is exceptional, on examining those who work with lead and whose arteries are thickened, *not* to find this modification of the first sound. The cases associated with *albuminuria* form only a small proportion (8·25 per cent.) of the total number in the series. Great importance has been attached by Potain and other French writers to the reduplicated first sound as an indication of chronic renal disease. The sign is undoubtedly present in many cases of granular kidney, but considering its frequent occurrence in other circumstances it would seem that its diagnostic value in this direction has been overestimated.

Those who have inquired into the manner of production of the double first sound may be regarded as belonging to one or the other of two schools, according to the opinion they hold. On the one hand are the observers who maintain that there is no such thing as a true reduplication of the first sound in the sense in which the second sound may be reduplicated. They hold that the reduplication is not real but simulated, an effect of doubling being produced by the interpolation of an abnormal sound immediately preceding the first sound proper. On the other hand are those who believe that the double effect does not depend on an interpolated sound but that it is caused by the separation from one another of certain elements which under ordinary conditions are blended to form the normal undivided first sound. According to this theory the first sound is doubled or divided in a manner comparable to doubling or division of the second sound, with, however, the important difference that whereas there may be a complete separation of the second sound into its aortic and pulmonary elements, the division of the first sound always remains incomplete.

The upholders of the interpolation theory base their claim chiefly on the grounds (*a*) that the first element of the double sound does not precisely coincide with the commencement of ventricular systole as timed by the impulse but immediately precedes it—that it is, in fact, a presystolic sound, as, they say, can be established by a careful determination of the relation of the sound to the beginning of systole; (*b*) that an appreciable interval of silence separates the two parts of the sound; (*c*) that a difference in quality can be detected between the two component parts—the first, or presystolic part, is short and thud-like as though it were produced by a sudden shock, while the second, or systolic part, possesses the dull sustained character of the normal first

[1] A paper read at a meeting of the Royal Medical and Chirurgical Society on Nov. 11th, 1902.

[2] An admirable summary of the views held by different writers is to be found in the text-books on "Diseases of the Heart," by Byrom Bramwell and by Gibson.

[3] Vide Clinique Médicale de la Charité, Potain, Paris, 1894, pp. 34 et seq.

[4] Vide a paper by the author on Reduplication of the Second Sound, THE LANCET, Jan. 9th, 1897, p. 97; also a paper by Dr. T. Stacey Wilson on Spurious Reduplication of the Second Sound at the Apex, Transactions of the Clinical Society of London, vol. xxxiv. (1901), p. 10.

[5] Traité Clinique des Maladies du Cœur, second edition, 1841, vol. i., p. 213.

sound; and (*d*) that there may coincide with the first part of the sound a presystolic jogging which leaves its record in the curve of a cardiographic tracing and can sometimes be detected by the hand. In criticism of these points I would observe that the two parts of the double sound occur in such close proximity that it becomes highly difficult, if not impossible, to establish the argument that they occupy different phases of the cardiac cycle or that they are separated by an interval of silence. The impression which I have gained from careful auscultation has been that both parts of the double sound are coincident with the impulse, and that they appeal to the ear not as distinct sounds separated by silence, but as points of emphasis in the course of continued sound. In regard to quality, I believe that any difference there may be is one of intensity and not of timbre; the two parts are similar in character, but not of equal loudness, and the advantage of loudness usually lies with the second part. The cardiographic evidence in favour of presystolic impulse does not seem to me convincing. In many cases of double sound the tracing shows no indication of double impulse. In some tracings recorded as illustrating the *bruit de galop* there is an obvious wave, but it occurs in the mid-diastole at a point so far in advance of the systolic wave that the corresponding abnormal sound could hardly have given rise to the semblance of a reduplicated first sound. I think it probable that these belong to a different category from the cases under consideration, in none of which was I able to satisfy myself of the presence of presystolic impulse. Some of the cases afford an interesting proof that both parts of the double sound are, in fact, systolic. A man, aged 41 years, had fibroid arteries, with high-tension pulse, polyuria, and nocturnal frequency of micturition; the urine contained a trace of albumin. The period of systole was accurately indicated by a prolonged mitral regurgitant murmur, characteristically smooth and uniform in quality and pitch. The first sound was reduplicated, both parts being clearly audible through the systolic murmur (see figure). The first part of the double sound marked the commencement of the murmur; the second part closely followed the first. Here was an instance in which

Diagrammatic representation of the cardiac murmur and sounds audible at the apex in the case quoted. *a*, Reduplicated first sound with systolic murmur. *b*, Second sound.

the murmur provided the means of accurately timing the reduplicated sound and it was perfectly clear that both components of the double sound fell within the systole. In other cases of mitral regurgitation with reduplicated first sound it was equally clear that the two parts of the double sound were comprised within the limits of the systolic murmur.

Although our knowledge of the mechanism by which the first sound of the heart is produced is still far from exact, there are good grounds for the generally accepted belief that it is of complex origin and that among the factors concerned in its production not the least important is vibration generated in the auriculo-ventricular valves due to the state of tension into which these membranes are abruptly thrown in the course of the ventricular systole. As a rule the mitral and tricuspid valves are thrown simultaneously into tension and the resulting sound is single. Suppose, however, some factor to come into play of a nature to mar the perfect synchronism which marks the normal incidence of tension there will result a doubling or division of the first sound such as has been described. That the doubling is incomplete depends on the fact that elements other than valve tension enter into the composition of the first sound. One part of the reduplicated sound is, on this hypothesis, attributable to mitral valve tension, the other part to tricuspid valve tension, while the general continuity of sound is due to the non-valvular components to which the unmodified first sound probably owes its quality of duration.

The view of asynchronous valvular tension is supported by a study of the clinical circumstances in which the reduplicated sound arises. Placing the group of dyspeptic cases, which offer certain special difficulties, on one side the clinical associations are all such as tend to modify the pressure, either in the pulmonary artery or aorta, which has to be overcome before the ventricle concerned can expel its contents. It is immaterial which side of the heart is involved in the changed conditions of tension. The essential factor is a disturbance of the relation which normally subsists between the intra-ventricular pressure on the right and left sides respectively and a corresponding dissociation of the mitral and tricuspid elements of the first sound. On this theory the reduplication which may be heard in many healthy individuals if the breath be held at the conclusion of a forced expiration, or if the heart be examined after some sustained and severe physical effort, such as running or rowing in a race, becomes at once intelligible. Similarly, the reduplication of emphysema and mitral regurgitation can be traced to the rise of pulmonary tension which is a common result of these lesions. The reduplication of anæmia without mitral regurgitation is probably attributable to impairment of the cardiac tone, with deficiency in driving power on the part of the left ventricle. There necessarily ensues an accumulation of blood behind any chamber the propelling function of which is impaired and thus in anæmia the tension becomes raised, at first in the left auricle, subsequently in the pulmonary vessels; and the pressure against which the right ventricle has to act is increased as surely, though not to the same degree, as in mitral regurgitation. Competence of the mitral valve is no barrier to the backward influence on the pulmonary circulation of impaired propulsion on the part of the left ventricle, though, as a matter of fact, in many cases of anæmia there is the additional element of mitral regurgitation, as is shown by the systolic apex murmur. The reduplication of anæmia is no more enduring than are the other signs of disordered function. When under appropriate treatment the general health is improved and the cardiac tone is restored, the area of impulse gradually contracts to its normal extent, the hæmic murmurs disappear, and the component parts of the first sound are once more blended. The temporary doubling that may be heard in the late stages of typhoid fever or during convalescence from this or other debilitating maladies is probably analogous in its production to the reduplication of anæmia.

There is one morbid condition in which, above all others, the normal relation of right to left intra-ventricular pressure is likely to be altered. In mitral stenosis the obstruction which deprives the left ventricle of its proper complement of blood is at the same time productive of pulmonary congestion and leads to an increase of the resistance opposed to the right ventricle. Until the stage is reached at which relief is afforded to this ventricle by tricuspid regurgitation, the tension within its cavity during systole must be raised to a remarkable degree. Notwithstanding this, reduplication of the first sound is seldom, if ever, heard in cases of established mitral stenosis. It may sometimes be present in the early stages, before the appearance of the characteristic signs, but I have never known it to occur in conjunction with a pre-systolic or diastolic mitral murmur. I would offer the explanation that in the more advanced degrees of stenosis the diseased valve is thickened and deformed to such an extent that in no circumstances is it capable of giving rise to a tension sound. In this event the valvular components of the first sound, consisting wholly of vibrations produced by the sudden and excessive tension of the tricuspid valve, unmingled with vibrations generated at the mitral valve, cannot possibly be duplicate. The peculiarly sharp and abrupt quality of the first sound in mitral stenosis is intelligible on the view that it consists chiefly of an accentuated tricuspid sound and that the stiffened mitral valve has no share in its production.

The clinical conditions so far described are such as tend to alter the relations between the two sides of the heart by an increase of the pressure against which the right ventricle has to act. A similar modification of the first sound may be effected by changes in the systemic blood pressure. Instances are to be found in the reduplication that may arise in cases of arterio-sclerosis due to lead or other causes, chronic renal disease, and, as was first pointed out by Dr. F. Sibson,[6] acute nephritis. The last-mentioned observer threw light on the true nature of the reduplication in acute nephritis by an ingenious observation with the double stethoscope. Applying one of the two chest-pieces to the

[6] The Influence of Bright's Disease on the Heart and Arteries, THE LANCET, March 23th (p. 437) and April 11th (p. 505), 1874.

lower end of the sternum and the other to the apex he found that when both chest-pieces were in position a double first sound was heard; when, on the other hand, either chest-piece was applied separately the sound was single. He was thus able to establish that of the two parts of the sound the one was originated in connexion with the right ventricle, the other in connexion with the left.

If the hypothesis be correct that the double first sound is due to a lack of coincidence in the moments at which the mitral and tricuspid valves, being thrown into tension, give rise to sound, it is interesting to note that reduplications of the first and of the second sounds fall into line as regards the essential mechanism of their production. In both cases the doubling is attributable to asynchronous valve tension; there is, however, the difference that the second sound is purely one of valve tension and it is accordingly possible for the aortic and pulmonary elements to be completely separated with the result of perfect reduplication; whereas in the production of the first sound other factors besides valve tension are concerned and the separation of the valvular factor into its two component parts, mitral and tricuspid, does not lead to a complete division or reduplication of the sound. The view of asynchronous valve tension involves no hypothetical dissociation of one ventricle from the other in respect of muscular contraction; it is not inconsistent with a ventricular systole that from beginning to end is concurrent on the two sides. Nor does it imply a want of synchronism between the right and left sets of musculi papillares; by the shortening of these muscles the valve segments are doubtless drawn together, but it remains to be shown that their approximation exactly coincides with the moment at which the valve tension becomes such as to give rise to sound; it would, indeed, seem on *a priori* grounds that the closure of the valves must be completed as a *preliminary* to the rapid rise of intra-ventricular pressure which is necessary for the production of sufficient tension to cause a valvular sound. What reduplication really signifies is a lengthening of the period between the closure of the valve and the production of sound on the side of the ventricle which has to meet the greater relative resistance.

It is sometimes assumed that the systole of the relatively burdened ventricle is prolonged, outlasting that of its fellow. This I do not believe to be commonly the case. If it were so the closure of the semilunar valves on the affected side would be delayed and the double first sound would be followed by a double second sound. As a matter of fact, combined reduplication of both sounds is uncommon; with reduplicated first sound the second sound is usually accentuated but not doubled, the accent falling on the pulmonary or aortic sound according to the associated conditions in regard to pulmonary and aortic tension. The increased resistance is probably overcome by an increased vigour of contraction on the part of the ventricle concerned sufficient to compensate for the initial delay and to bring the systole to a close at the same moment on the two sides. It is sometimes stated that as regards prognosis a double first sound is an indication of undue stress and of impending cardiac failure. The statement is not borne out by my experience in the above series of cases. The greater number of the patients were occupied with their usual work and only attended hospital as out-patients. Patients have been under my observation for more than a year in whom the abnormal sound has persisted without change in its character and without any sign of cardiac failure.

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A NEW DEPARTURE IN THE TREATMENT OF HYPOPYON KERATO-IRITIS.[1]

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MY remarks will solely deal with the most severe type of the disease—in other words, with that form which tests the relative value of diverse treatments. I have, I may say, vividly before my mind three cases of the disease, in each of which the duration of time since the onset of the disorder had varied from three to eight weeks, so that the affection had become thoroughly seated and included a severe cyclitis as well. The infiltration in each case occupied the centre of the cornea to an extent larger than the area of the pupil, and the pus in the anterior chamber was on a level with the lower margin of the pupil. The pupil was also bound down and dilated but little, if at all, under the use of atropine. The eyeball was deeply injected and the pain was severe and long-continued. The treatment always advocated and relied upon is the local, and internal—i.e., constitutional—remedies occupy a decidedly secondary place. I shall not rehearse the list of local remedies, which is long and in many ways of great merit. However, in the type I am speaking of, where the corneal tissue is so extensively diseased, their use often fails to check the downward progress or, if it does, so tardily that great damage is the outcome. My treatment is purely constitutional, save the dropping into the eye of a four-grain solution of atropine once every day or second day, and the casual bathing of the eye with hot water or a little boric acid. It consists in the use of my combined treatment—viz., mercury and iodide of potassium taken internally and pilocarpine given hypodermically. For guidance as to the administration of this treatment I beg to refer to my papers in the *Archives of Ophthalmology*, the *Ophthalmic Review*, and THE LANCET.[2] The results have been truly satisfactory. The upward trend of the disease has soon showed itself in the pain being quickly relieved, in the infiltration having a sharper margin, in the pus in the anterior chamber lessening, and in the surrounding healthy cornea becoming brighter and clearer. And, moreover, the improvement once established ever remains—i.e., no relapse takes place. In one case that came very late under my care and looked truly desperate before the disease could be checked a leakage began to take place through the ulcer so that the iris lay against the cornea. Even here the result turned out well and the adherent tissue has gradually given away, so that now there is a very fair anterior chamber.

In this treatment, moreover, the opacity left keeps ever growing less in size and denseness, so that finally it will disappear or only a non-disfiguring opacity be left. This treatment has several excellent features—the rapid relief of pain, the cure of the diseased condition with at least as great certainty as by the other methods and, I am fully persuaded, with greater, the gradual and uniform removal of the corneal opacity, and the absence of any pain immediately associated with the form of treatment used.

Thus, again, the eye allows to be demonstrated the great effect that a group of remedies given as mine are can, and do, exert upon a very severe type of an acute disease with marked degenerative changes.

And again let me say, as I am ever doing, if the eye thus responds to this treatment, may not other organs and parts of the body be rightly deemed just as susceptible to its influence?

Toronto.

[1] A note read at the annual meeting of the Canadian Medical Association held at Montreal, Canada, in September, 1902.

A CASE OF CONCEALED ACCIDENTAL HÆMORRHAGE.

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THE patient was a full-time, healthy multipara, aged 40 years. I was called to attend in her confinement about 10 A.M. I went immediately and was told by a midwife who was in attendance and who had been so for the greater part of the previous night that the patient was all right and was making satisfactory progress, and that the "colours had broken," but that she did not think the child would be born for some time. She had sent for me before I went my usual "rounds."

I examined the patient and found her pulse to be beating 112 per minute and soft. She was having strong pains regularly, which were to all appearances normal, but the patient said that she did not think that they were real labour pains. Her general appearance seemed normal. I then

[2] THE LANCET, April 27th, 1901, p. 1202.

examined the abdomen which was globular. I could not make out the fœtus, but what aroused my suspicions was the fact that immediately I put my hand on the patient's abdomen there was an obscure feeling of crepitus of a similar character to that which is felt in a severe bruise with extravasated blood but by no means distinct. I concluded that the uterus might contain blood and found on inquiry that the patient was, as a rule, "full-blooded"; also that she had been stretching herself while papering a room on the previous day and had not felt well since. I asked to see all the clothes and cloths she had used and all the blood she had lost, if any. I was shown about 40 drops on a clean linen cloth which she had used; there was no blood serum or mucus. This was what the attendant had in her mind when she told me that the "colours had broken." The blood drops were perfectly clear and fresh.

On examination per vaginam the passages were found to be normal; the os was normal and dilated to admit two fingers while nothing unusual was to be felt in the vicinity. The presentation was normal and the membranes were intact but my fingers after the examination had on them a little fresh blood. There was no hæmorrhage taking place externally. Taking into consideration the patient's previous day's work, her pulse, her pallor (which was not abnormal but for the fact that the woman in health was "full-blooded"), the fact that her pains were not in character what they ought to be according to the patient's statement, the freshness of the few drops of blood which were external, and more especially the slight obscure crepitus on palpation and the globular appearance of the abdomen, I concluded that this was a case not often met with by the general practitioner—namely, a case of concealed accidental hæmorrhage.

I decided that immediate delivery was the best course to adopt, so I sent for assistance and proceeded to dilate the os with my fingers; during this time no blood escaped externally. By the time assistance had arrived the os was well dilated. We ruptured the membranes and liquor amnii escaped mixed with blood. By this time the pulse was occasionally imperceptible, so we put on forceps and when the first blade passed the head blood poured out; the child was immediately delivered and along with it the cord, membranes, and placenta came away all in one. The child was dead and the placenta looked as if it had been separated for some time. Following this the uterus, which was full of large clots, was emptied of blood and well contracted by manipulation and ergot. No blood was lost after this and contraction was obtained immediately the uterus was emptied. The patient had the same appearance and her mind remained very clear. Her pulse varied, being sometimes perceptible and sometimes imperceptible. I gave her stimulants constantly. Saline rectal injections were given but the poor woman gradually became pulseless and collapsed.

Crieff, N.B.

EOSINOPHILIA ASSOCIATED WITH BILHARZIA DISEASE.

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THE occurrence of a well-marked eosinophilia in many of the diseases of man caused by parasites such as trichina spiralis, ankylostoma duodenale, &c., is now becoming well recognised. Dr. C. G. Seligmann and Mr. L. S. Dudgeon[1] in a case of hydatid disease found on one estimation that the eosinophiles were present in the blood in the enormous proportion of 57 per cent. of all the leucocytes, confirming Neusser's observation on the increase of the eosinophile cells in hydatid disease. Dr. A. C. Coles has published a case of bilharzia disease[2] in which he found that 20 per cent. of the leucocytes were eosinophiles. This I believe to be the only case so far recorded. The rarity of the disease in the general hospitals prevents any examination of a series of cases and must be my excuse for publishing an isolated case after attention has already been drawn to the occurrence of eosinophilia in it.

[1] Eosinophilia associated with Hydatid Disease, THE LANCET, June 21st, 1902, p. 1764.
[2] The Blood in Cases affected with Filariasis and Bilharzia Hæmatobia, Brit. Med. Jour., May 10th, 1902.

The patient was a young man, aged 25 years, who served in the South African campaign from December, 1899, to May, 1901. He took part in Lord Roberts's march across the Free State and was present at Paardeberg, where he drank freely of the polluted river water. He developed a cough and had slight hæmoptysis for which he was invalided out of the service. His journey through Natal to the coast took nine days, mainly spent in the train. While on board ship on the way home he had attacks of pain in the loins but no urinary trouble. He reached home on May 23rd, 1901, and four weeks later he noticed for the first time that his urine was blood-stained at the end of micturition. The patient was positive that up to this time his urine had been perfectly normal. This passage of blood with the urine had persisted ever since. He was admitted into the West London Hospital under the care of Dr. Seymour Taylor on May 24th, 1902, and was discharged on June 14th. He was in fair condition, though somewhat anæmic in appearance. The urine varied as regards the amount of blood it contained but the quantity was usually small; blood clots were frequently present. The typical bilharzia ova were always to be found in large numbers as well as bladder epithelium. Small patches of bladder epithelium and clot containing numbers of ova were common. Red blood corpuscles were always present. A blood count showed 10,000 leucocytes and 4,770 000 red cells per cubic millimetre and 60 per cent. of hæmoglobin. He still complained of occasional pains in the loins and stated that when the pain was more severe he had noticed that his urine contained more blood. His stools were examined but no blood was ever seen. He had, however, passed blood with his stools before admission to hospital, but as he had suffered from an attack of dysentery while in Bloemfontein in April, 1900, this might well have been due to that. He was readmitted on August 27th in precisely the same condition and his blood was examined on three occasions more fully. For two of the estimations I am indebted to Mr. L. S. Dudgeon. On the first occasion the blood was taken just before the patient's dinner (on Sept. 1st), on the second four hours after dinner (on Sept. 6th), and on the third one and a half hours after breakfast (on Sept. 30th). The results were as follows:—

	1.	2.	3.
Eosinophiles	33·6	31·8	23·8
Finely granular oxyphiles	42·4	42·2	48·2
Lymphocytes	18·4	24·4	26·6
Large hyaline cells	3·5		
Mast cells	2·1	1·6	1·6

On the third occasion the leucocytes numbered 7500 per cubic millimetre and the red cells 5,037.000. The hæmoglobin percentage by Oliver's hæmoglobinometer was 100. It is interesting to note that the first sign of hæmaturia occurred one month after landing in England—i.e., about seven weeks after leaving South Africa. As usual, nothing can be inferred as to the mode of infection; he had drunk polluted river water but had only bathed three times.

St. Thomas's Hospital.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WEST LONDON HOSPITAL.

TWO CASES OF ŒSOPHAGEAL OBSTRUCTION BY COINS.

(Under the care of Mr. H. W. BAYLY and Dr. J. LEWES TIMMINS.)

COINS are very frequently swallowed, especially by children, and in most cases they pass with little trouble through the whole alimentary canal. Occasionally, however, they lodge in the œsophagus, and the three most common situations at which they are arrested are at the commencement of the œsophagus, opposite the bifurcation

of the trachea, and immediately above the cardiac sphincter of the stomach. Until the last few years the difficulty has always been to localise the foreign body, for even if it has passed on the soreness which it leaves behind is often liable to be mistaken for the foreign body itself. Now, however, the x rays give us an invaluable method of locating these bodies and coins especially are seen easily for they give a dark shadow. In the following two cases is described the utilisation of the x rays to assist the employment of forceps for the extraction of a coin in the œsophagus; the forceps, being metallic, also give a good shadow. The tissues of children are so very permeable to x rays that in operations such as these the shadows are extremely clear, especially if the focus tube is not placed nearer than 18 inches. Coins may be retained in the œsophagus for long periods. In THE LANCET of 1888,[1] Mr. H. Martin Doyle described a case in which a halfpenny was brought up four months after it been swallowed. Dr G. H. J. Dinsmore[2] has described an ingenious method of inducing the return of a coin lodged in the upper part of the œsophagus; it consists in passing a tongue depressor on to the back of the tongue so as to induce forcible retching. He states that he has on two occasions found this method effective. For the notes of the cases we are indebted to Dr. J. L. Timmins.

CASE 1.—A boy, aged five years, was sent up to the West London Hospital with the story of having swallowed a halfpenny a week before. The child complained of pain at the back of his neck, low down and a little above the level of the top of the sternum; there were also some pain and difficulty in swallowing. A "coin catcher" was passed, but without success. On the following day the patient was examined with the x rays and fluorescent screen and the coin was immediately located just above the sternum and lying in the œsophagus with its surfaces directly anterior and posterior. A second trial was now made with a bougie and coin catcher with no result. The child was then admitted to the hospital. On the following day (Sunday) an attempt was made to remove the coin with a laryngeal crocodile-jawed forceps without an anæsthetic which also failed. On Monday the child was taken down to the x-ray room and the coin was found to be in exactly the same position as when first examined. An anæsthetic (chloroform) was now administered and the child was placed with his neck over the centre of a window in the table and the window was covered with parchment; a roll of blanket was placed under his neck, so that his head was well thrown back. The tube of the x-ray apparatus was placed under the window and in this position a good and clear view of the coin could be easily obtained on placing the screen over the patient's neck. The laryngeal crocodile forceps was passed carefully into the œsophagus, after which the gas-light in the room was turned out and the x rays were switched on. Now, by the aid of the screen, the forceps was passed down to the upper edge of the coin, the jaws were then slightly opened, and the edge was caught and firmly held. The coin was now easily drawn up the œsophagus and out of the mouth, the whole operation except the inserting of the forceps into the œsophagus at the beginning being watched and guided entirely through the screen. On the following day the child was discharged from hospital apparently quite well and could take his food without any pain or difficulty. He was not taken there again, so most probably the treatment was entirely successful.

CASE 2.—A boy, aged four years, was taken to the hospital on the Sunday following the treatment of the above case. His mother stated that he had been playing with a farthing that afternoon and she actually saw him put it in his mouth and swallow it. The boy complained of pain about the level of the thyroid cartilage and he would not eat anything. Profiting by the experience of the previous case Dr. Timmins advised the mother to return with him on the following morning to be examined with the x rays, and also gave her instructions for preparing him for the administration of an anæsthetic, should the coin be found in the œsophagus. On examination with the x rays and screen the farthing was readily seen at the top of the œsophagus at the level of the thyroid cartilage; it was lying with its surfaces antero-posterior as in the previous case. The child was now anæsthetised with chloroform and put into exactly the same position as the patient in the first case, the neck being over the window in the table and the head thrown well back by a roll of blanket under his neck. The crocodile forceps was then passed into the œsophagus before the light was turned down. Dr. Timmins found that the forceps was absolutely stopped by the coin and could not be passed beyond it or to one or either side. Now, by the aid of the screen, the edge of the coin was caught and the farthing removed. Some little difficulty was at first experienced in getting hold of the edge of the coin as the forceps kept catching a fold of mucous membrane. The child came round from the anæsthetic and an hour after seemed fairly well; he had no pain; he was then sent home with his mother. About midnight the same day the mother came in some alarm to the hospital, saying that the child was breathing badly and was in some pain. Dr. Timmins sent her to fetch the child, but she did not return, so it was presumed that other advice was called in. The patient was not seen again.

Remarks by Dr. TIMMINS.—The above two cases were treated during August of this year; the first was operated upon by Mr. H. W. Bayly, the house physician, through whom I am enabled to give the above account and the second case was treated by myself. Some remarks may be made on the two cases. Firstly, the failure to extract the coin in the first case with the coin-catcher was probably due to the fact that the instrument could not be passed beyond the coin, which of necessity must take place in order to catch it. A coin when lodged in the œsophagus is tightly wedged and probably rolls a small fold of mucous membrane in front of it on either side, which prevents it passing on down into the stomach. The coin being so wedged the walls of the œsophagus are more or less tightly drawn over both its surfaces, so that nothing but fluids or semi fluids could pass. The use of the coin catcher is not without danger if any force is used. It will either force the coin onwards, the edges passing over the little fold of mucous membrane on either side, or the coin may still be held and the instrument stretching the wall of the œsophagus on one side pass on beyond it. If the œsophagus is already on the stretch this forcible passing of the coin catcher may rupture the œsophagus. Or, again, the pressure on the coin may force one or other edge through the wall, especially if the coin has been there some time and caused ulceration. The failure of the crocodile forceps before the administration of the anæsthetic and without the use of the x rays was probably due to the catching of a fold of mucous membrane with the edge of the coin, and also to the difficulty in keeping the patient still. Under an anæsthetic there would probably be very little trouble with this instrument even without the help of the Roentgen rays. The positions of each of the coins demonstrated the narrow parts of the gullet - viz., at the commencement and just opposite and above the manubrium sterni. It is also noteworthy that in both cases the coins took up a position with their surfaces antero-posteriorly. The use of the x rays in these cases is almost essential to find out the exact position of the coin and it also renders the extraction much easier as the whole operation can be watched.

[1] THE LANCET, Nov. 10th, 1888, p. 911.
[2] Brit. Med. Jour., 1889, vol. i., p. 56.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Changes occurring in a Mammary Scirrhus treated by X Rays.—Changes in Rodent Ulcer produced by X-ray Treatment.—Biliary Cirrhosis with and without Cholelithiasis.—Atheromatous Obliteration of the Innominate Artery.—A Thoracic Duct containing Secondary Carcinoma.

A MEETING of this society was held on Dec. 2nd, Mr. R. J. GODLEE, the Vice-President, being in the chair.

Mr. S. G. SHATTOCK reported a case of Mammary Carcinoma which had been treated by X Rays. He said that he had had the opportunity of studying an example of the above which was excised by Mr. W. F. Brook. The specimen came from Case 3, shown by Mr. Brook at the late meeting of the British Medical Association.[1] The

[1] Brit. Med. Jour., Oct 25th, 1902, p. 1305.

tumour was subjected for about three months to the rays, and clinically underwent diminution in size in addition to becoming more moveable on the subjacent parts. Examination after removal showed, however, that no changes could be associated with the treatment, either macroscopic or microscopic. The stroma presented a variable amount of lymphocytic infiltration and contained mast cells and a few groups of Unna's plasma cells. The epithelium, which was of the spheroidal-celled kind, presented nowhere any necrosis, and the only fatty degeneration of any note concerned the cells of the few mammary lobules still remaining about the edge of the growth. At no part of the margin was the growth ceasing to extend. The "cancer body" occurred in groups or singly in certain of the epithelial cells and the arterioles around and in the stroma were normal. The results of the examination were highly disappointing, for no degeneration of any kind or cell lysis had been induced by the treatment, no phagocytic invasion of the epithelium was in progress, and on every side the growth was in an extending condition; there was nothing in the amount of lymphocytic infiltration, in the mast cells, and in Unna's plasma cells which might not be met with in cases where no treatment had been carried out. The clinical diminution in size of the mass and the loosening of its deep connexions were difficult to explain; possibly they were due to the disappearance of a sub-inflammatory œdema.

Mr. STEPHEN MAYOU read a paper on the Effects of X Rays on Rodent Ulcers. He first showed their probable relation to ultra-violet light and thought that their effects were closely allied to other forms of stimuli. With the exception that their application was painless when applied to healthy tissues they produced a superficial inflammation which was greatly increased by the application of other forms of stimuli. This was instanced by cases, since he did not think the fact was generally recognised. The dilatation of the vessels of the inflamed part seemed to be permanant in some cases after prolonged exposure. He thought that the rodent cells themselves acted as irritants and showed by sections that the leucocytosis was around these cells more than in the neighbouring tissues. The greater part of the growth (that was to say, the nodular masses) disappeared by sloughing, but the outlying masses of rodent cells degenerated, the degeneration taking place from without inwards towards the centre of the clumps. The cells becoming vacuolated and the granules collecting around the cell-wall seemed to be making their way through it. The chromatin of the nuclei gradually ceased to take up the stain, leaving only the cell-wall, which was subsequently removed by leucocytes. The removal of a small portion of the growth in order to examine it for the presence of active rodent cells was found useful in determining when treatment should cease.—Mr. GODLEE asked if in the case of the rodent ulcer the cure had been complete.—Mr. MAYOU replied that cure had been complete in the case of the rodent ulcer. He mentioned two cases of carcinoma of the breast, in one of which treatment by the x rays had had no beneficial effect, while in the other after a few weeks' treatment a complete cure seemed to be effected.

Dr. F. PARKES WEBER read a paper on Biliary Cirrhosis with and without Cholelithiasis. He compared the cirrhosis of the liver resulting from chronic cholelithiasis to the chronic interstitial nephritis resulting from partial or intermittent obstruction to the outflow of urine. In both cases an acute suppurative ascending inflammation might supervene as the final cause of death. As a typical example of biliary cirrhosis from chronic cholelithiasis he quoted the case of a woman, 52 years of age, who suffered more or less from jaundice during the last seven years of her life. In the early part of 1896, about a year after the commencement of the jaundice, gall-stones were removed from her gall-bladder and her general condition was immensely improved by a cholecystotomy, but it was supposed that a gall-stone had remained in the common duct. Bad symptoms recurred. Besides the jaundice there were xanthoma of the eyelids, arms, and neck, and persistent pruritus. The liver and spleen were greatly enlarged and she became very cachectic. She had pulmonary infarction, pleuritic effusion, and apparently commencing gangrene in one lower limb when she died in August, 1902. The liver was enlarged, greenish-yellow on section, and much cirrhosed. Microscopical examination showed the distribution of the fibrous tissue to be irregular and certainly not strictly "unilobular." A similar case described by Dr. Weber in 1896 was quoted as another example. It was that of a woman, 55 years of age, with jaundice of four years' duration. Other examples were instanced from the literature of the subject. Dr. Weber proceeded to discuss the pathogeny and other questions regarding biliary cirrhosis without cholelithiasis. As a typical example of Hanot's disease he referred to the case of a girl, 14 years of age, described by him at the Pathological Society in 1895. The child was thought to have been more or less jaundiced all her life, but an elder sister, who had apparently suffered from the same disease, first became jaundiced at about 13 years of age and died at 19. The case illustrated several points in regard to Hanot's disease: (1) the liver need not always be "hypertrophic"; (2) the cirrhosis need not be purely "unilobular"; (3) the growth of the whole body might be stunted when the disease commenced in early childhood; (4) the splenic enlargement might be excessive, especially in children; and (5) occasionally there was a family tendency to the disease. Dr. Weber referred to cases of congenital biliary cirrhosis and to a clinical group of cases in which great enlargement of the spleen occurred in association with only occasional attacks of jaundice, different members of the same family being sometimes affected. He spoke of the probable causes of the splenic enlargement in biliary cirrhosis and pointed out that there were cases of biliary cirrhosis with little enlargement of the liver and cases without much enlargement of the spleen.—Dr. H. D. ROLLESTON said that the paper raised so many points of interest that it was impossible to do justice to, or to discuss, the paper. He considered that in the human subject aseptic obstruction of the common bile-duct did not lead to cirrhosis of the liver but led to atrophy of the liver substance and dilatation of the ducts, a condition analogous to hydronephrosis. Calculous obstruction of the ducts, which readily allowed infection of the ducts to occur, gave rise to pericholangetic fibrosis for this reason. But in calculous obstruction multilobular cirrhosis might also be found. No one anatomical type of cirrhosis was rigidly connected with obstruction.

Dr. HUGH THURSFIELD showed a specimen of Occlusion of the Orifice of the Innominate Artery by Endarteritis Obliterans, with extreme narrowing of the orifice of the left carotid artery. Although the occlusion of the artery was complete there was no trace of thrombosis, and a probe could be passed down to the point of origin of the artery from the aorta. The exact nature of the endarteritis and the reasons for the absence of thrombosis were questions to which no answer could be given.—Dr. ROLLESTON suggested that the condition was an endarteritis similar to that seen in the coronary arteries and thought that the condition was probably syphilitic in origin.—Dr. F. J. POYNTON mentioned the case of a man in whom obliteration of the carotid and brachial arteries gradually occurred so that no pulsation could be felt in these vessels. There was in this case a definite history of syphilis.

Mr. W. T. HILLIER showed a specimen of Thoracic Duct and Lymphatic Glands filled with New Growth taken from the body of a man who died from carcinoma of the rectum and had secondary growths in the liver, lungs, and lymphatic glands. During life there had been no chyluria or ascites.

CLINICAL SOCIETY OF LONDON.

Ruptured Crucial Ligaments and their Repair by Operation.—Hepatic Abscess.—Strangulated Inguinal Hernia reduced en masse by the Employment of Taxis.

A MEETING of this society was held on Nov. 28th, Mr. HOWARD MARSH, the President, being in the chair.

Mr. A. W. MAYO ROBSON made a communication on Ruptured Crucial Ligaments of the Knee-joint and their Repair by Operation. The patient was a man, aged 41 years, who was admitted into the Leeds General Infirmary in November, 1895, for lameness, the result of an accident nine months before when he was almost buried by a fall of earth and sustained numerous injuries besides the one to the joint in question. When admitted to the infirmary the right knee was swollen but it was free from tenderness on manipulation. When the muscles were contracted the bones were in good position, but as soon as the muscles were relaxed the tibia fell backward until stopped by the ligamentum patellæ, and on manipulation the head of the tibia could be brought forward in front of the femur, there being also free lateral movement of the head of the tibia on the

femur. It was manifest that not only were all the ligaments relaxed but that the crucial ligaments had been ruptured. On Nov. 21st the joint was opened by a semilunar incision carried across the front, dividing the ligamentum patellæ. The synovial membrane was found to be inflamed and there was an excess of fluid in the joint. Both crucial ligaments were completely ruptured, having been torn from their upper attachments, the ends being in a shreddy condition. They were stitched in position by means of catgut ligatures, the anterior being stitched to the synovial membrane and subjacent tissues on the inner side of the external condyle and the posterior, which was too short and was split in order to lengthen it, was fixed by sutures to the synovial membrane and cartilage on the outer side of the inner condyle. The wound was then stitched up by means of buried catgut sutures and was closed superficially by interrupted silkworm-gut sutures. The result was very successful, complete restoration of the normal movements of the joint having occurred. The plaster-of-Paris was removed in a month, after which movement gradually returned under massage. When seen on Oct. 24th, 1901, the patient was walking without a limp and could run, and he could work eight hours a day at his old employment. The joint could be extended to the straight line and flexed just beyond the right angle, there being no abnormal lateral or antero-posterior mobility whatever. Mr. Mayo Robson had not discovered any other case in which these ligaments had been repaired, which he trusted was a sufficient excuse for his recording a single case.—The PRESIDENT remarked on the interest of the case and on the fact that these non-vascular structures should have been repaired in this way. He thought that as a rule it was unwise to open a joint when it was actively inflamed and he related an illustrative case. He had been struck by the remarkable way in which ligaments did in some cases undergo repair and he referred to the case of a boy whose knee-joint after injury was in a flail-like condition, yet six months later the joint was found to be in a very fairly serviceable condition.—Mr. W. G. SPENCER doubted if such strong ligaments could ever be perfectly repaired and whether, if they were repaired, their attachments by scar tissue would be sufficiently firm. In many cases there was a plate of bone torn away with the ligament.—Mr. MAYO ROBSON, in reply, concurred in the general view not to operate upon joints in a state of acute inflammation. In his own case the limb was absolutely useless nine months after the accident and the only alternative would have been amputation.

Lieutenant-Colonel W. K. HATCH, I.M.S., read a paper on Hepatic Abscess, which he said he had had exceptional opportunities of treating. Altogether, in the Sir Jamsetjee Jejeebhoy Hospital and in private practice he had seen upwards of 1000 cases of this disease. He pointed out that the disease was common enough among natives and though alcohol was a factor the majority had suffered from dysentery. In discussing the diagnosis, he insisted on the characteristic hepatic odour in the fluid derived from such abscesses. Sometimes percussion gave a resonant note over the abscess, due, no doubt, to the neighbouring colon. If situated near the middle of the liver, near the ensiform cartilage, pulsation might be propagated from the aorta, thus complicating the diagnosis. He wished particularly to call attention to the fact that aspiration was attended with considerable danger and ought, in fact, only to be employed when the diagnosis had been established and it only remained to determine the precise locality of the abscess. The danger lay either in puncturing an enlarged and highly congested liver or in wounding a large hepatic vessel. Dangerous and even fatal hæmorrhage might thus be caused and in some instances from puncture of the vena cava. His practice was to open the abdomen by a two-inch incision, exposing the liver, which enabled him to introduce the cannula with greater safety. As regarded surgical treatment he thought that incision was unquestionably the proper treatment, and the earlier the better, though it might be well first, in large abscesses, to draw off part of the pus, making the incision a day or two later and thus lessening the chance of its becoming septic. He preferred to open between the ribs rather than below them. He deprecated removal of ribs as being rarely necessary. Even in cases where the abscess contents were being expectorated he preferred to incise. He never irrigated the abscess cavity unless it became septic. The mortality in hospital practice was high, amounting in some years to 90 per cent.; in private practice it was probably only about 20 per cent.—The PRESIDENT asked whether Lieutenant-Colonel Hatch had made use of the method of diagnosis by leucocytosis. He commented on the fact that apparently he (Lieutenant-Colonel Hatch) did not attach much importance to cutting into the abscess through the peritoneum, a procedure which was usually held to entail considerable risk. He himself, in such circumstances, preferred to expose the abscess and to pack gauze around the presenting part, so that in the course of a day or two adhesions might form and so shut off the peritoneal cavity, and he mentioned a case in which he had adopted this procedure with success.—Mr. A. A. BOWLBY, C.M.G., in some remarks on the subject of attacking these abscesses through the pleura, recalled that it had been alleged that as the pus was sterile there could be no objection to allowing it to escape through the pleura, but he thought that it was generally held to be desirable to shut off the pleural cavity. Even if the pus were originally sterile it probably did not remain so.—Mr. MAYO ROBSON said that Lieutenant-Colonel Hatch had done good service if only by calling attention to the risks of indiscriminate blind exploration. This was still very widely practised. The exploration of suspected distended gall-bladder, he trusted, was a thing of the past. It was much safer in abscess of the liver to open the abdomen; then they could see what they were doing and could the more easily arrest bleeding. He did not feel sure that it was always desirable to perform the operation *en deux temps* because that prevented their exploring the region in order to find out whether other abscesses were present. When exploring the liver he preferred to pack the wound with sponges and if pus were found it could be evacuated before making a free incision.—Dr. A. E. T. LONGHURST expressed surprise at learning that abscess of the liver was so common among the natives of India and asked how Lieutenant-Colonel Hatch explained this circumstance?—Dr. J. P. ZUM BUSCH said that during the last 10 months he had opened four abscesses through the pleura; in three he had made an exploratory aspiration, and immediately afterwards he had excised two ribs, stitching the pleura to the diaphragm. The patients all recovered without any trouble referable to the pleura. In the fourth case there had been a great many aspirations and no doubt the needle had been pushed through the pleural cavity, for that patient developed an empyema from which he died. He pointed out that aspiration on suspicion of abscess of the liver might be attended by serious consequences.—Mr. STEPHEN PAGET asked what was the danger, if any, of opening the abscess freely? On two occasions he had found it useful to pass a silver director down beside the trocar and then with a probe-pointed gorget he had pushed aside the liver tissues, thus minimising the risk of wounding a vein.—Lieutenant-Colonel HATCH, in reply, said that he had not resorted to leucocytosis for diagnostic purposes. He thought that there was a positive advantage in not pushing the surface of the liver away from the abdominal parietes. He had never met with any bad results from the passage of the pus into the peritoneum, nor had the pathologist to the hospital recorded any evidence of peritonitis from that cause. Beyond some dyspnœa he had not seen any danger from opening through the pleura, yet he did not specially suture the pleura to the surface of the thoracic wall. His object was to show that great care should be used in exploring, particularly in the cases in which there was no abscess at all, since it was in those cases that it might do most harm. The frequency of hepatic abscess among the natives in Bombay might be explained by their unhygienic habits and surroundings and the frequency of dysentery amongst them.

Mr. L. H. MCGAVIN communicated a case of Strangulated Inguinal Hernia in which reduction *en masse* was obtained by the employment of taxis. The patient, a man, aged 52 years, was admitted into the Seamen's Hospital, Royal Albert Dock, on Sept. 20th, 1902, with the following history. For nine years he had suffered from a right inguinal hernia which had always been easily reducible, no signs of strangulation having ever been present. On the night of Sept. 14th, however, the rupture suddenly came down and he was unable to get it back. He immediately called in a medical man who made several ineffectual attempts at reduction by the use of taxis. On the last attempt the mass partially disappeared and the patient at once experienced great pain and almost immediately commenced to vomit. On the following day the vomit became stercoraceous and continued so till admission and the patient subsequently died. Mr. McGavin thought this case worthy of publication

as much on account of its moral lesson as of its clinical interest, for it served to emphasise what had been so repeatedly pointed out by many authorities, that the attempt to reduce a strangulation of the intestine by taxis was unwise, and that when persisted in repeatedly such treatment was quite unjustifiable.—Dr. E. G. L. GOFFE suggested the use of a local anæsthetic in such cases, such as eucaine. He had witnessed very good results therefrom.—Mr. W. G. SPENCER observed that taxis was largely resorted to and, perhaps, one only heard of the unsuccessful cases.—Mr. BOWLBY observed that many cases of reduction *en masse* were cases in which the taxis had been applied by the patient or his friends. He had never seen a case in hospital in which it had followed taxis applied in the hospital. It was quite possible that the measure of force applied by people outside the hospital may have been beyond anything that was reasonable and right. He opined that it would lead to considerable loss of life if taxis were quite abandoned. Even if the mortality from operation were only 10 per cent. as alleged, the mortality of taxis applied within 24 hours would not be nearly as much, for in the majority of cases it was reduced with a minimum of force and a reasonable amount of force was probably quite safe.—Mr. HORATIO P. SYMONDS said that as the surgeon of a country hospital he had for 20 years always forbidden taxis to be applied, preferring to operate forthwith. The damage was done in cases in which there was no omentum in the sac, in which event a comparatively small amount of pressure might do great harm.—Mr. T. H. OPENSHAW agreed that in femoral herniæ, herniæ with a tight neck, cases in which there was marked collapse and in which the symptoms had lasted some time, taxis was inadvisable. Nevertheless, he himself applied taxis in some cases, and not without success. He had not seen more than one or two cases in which taxis had done harm.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—Salicylic Acid and Food.—Foreign Bodies in the Œsophagus.

A MEETING of this society was held on Nov. 20th, Mr. RUSHTON PARKER, the President, being in the chair.

Mr. T. H. BICKERTON showed a case of Symmetrical Corneal Opacities, which was commented upon by Dr. K. A. GROSSMANN and Dr. F. H. BARENDT.

Mr. R. W. MURRAY related the case of a lad, aged 16 years, upon whom he had operated in April last for what was thought at the time to be Subacute Appendicitis. The operation revealed a strictly limited hyperplasia of the cæcum and adjacent portions of the ileum with a small abscess, probably glandular, behind the cæcum. The abscess was drained and ten days later a fæcal fistula formed. In July, as the general health was failing, Mr. Murray opened the abdomen away from the affected area and short-circuited the intestine, joining the ileum to the transverse colon end to end by simple suture. The fæcal fistula closed, but the patient's general condition was still far from satisfactory. In this case, one probably of tuberculous hyperplasia of the cæcum and ileum, Mr. Murray thought that excision of the diseased portion of the intestines was impracticable.—Dr. W. BLAIR BELL gave the early history of the case and could not agree with Mr. Murray as to the nature of the condition in Dr. Bell's opinion it was not tuberculous.—The PRESIDENT, Mr. KEITH W. MONSARRAT, and Mr. G. G. HAMILTON spoke and Mr. MURRAY replied.

Dr. JOHN HAY showed a man, aged 38 years, suffering from the tonic form of Progressive Muscular Atrophy which had commenced four months after an attack of lobar pneumonia.—Dr. T. R. BRADSHAW remarked that the case was of the type commonly known as amyotrophic sclerosis more often seen in women and running a much more rapid course than the purely atrophic cases.

Dr. C. J. MACALISTER and Dr. BRADSHAW contributed a paper on the Influence of Small Doses of Salicylic Acid on Digestion and Nutrition, with special reference to its employment as a preservative in food. Evidence had been given in various courts and in Parliamentary committees which was of the vaguest description, depending less upon actual observations upon the results of taking salicylic acid itself than upon the results of taking other antiseptics. The writers were strongly of opinion that the nature and amount of preservative employed ought to be stated on the label. They had found that it was contended that salicylic acid was injurious for three principal reasons: (1) that it was antiseptic and anti-fermentative and therefore liable to interfere with the digestive processes by destroying the digestive ferments; (2) that after absorption it was apt to injure the general health and to interfere with nutrition; and (3) that it was an irritant and therefore apt to injure the mucous membrane of the stomach and intestinal canal. They had reason to believe that many who were opposed to the use of salicylic acid on the first ground did not distinguish between true digestion and decomposition. The writers had made numerous experiments on artificial digestion and they found that the presence of salicylic acid even in saturated solution had about the same effect in retarding peptic digestion as the same proportion of kitchen salt. In pancreatic digestion of starch it seemed to have no retarding influence at all after neutralisation. As regard the second objection, one of them had taken five grains of salicylic acid daily for a month without any ill effect on the health; they had given it to children in fruit juice preserved with it, and they had watched its effects on other persons, and they found that it exerted no recognisable bad effect whatever. As regards the objection that salicylic acid was an irritant to the mucous membrane, they denied that it could be so in any such degree of concentration as it was possible to obtain either in food or in the stomach contents. They maintained that salicylic acid as an antiseptic was of the greatest value to the poorer classes in towns by enabling them to obtain luxuries, such as non-alcoholic wines, free from the risk of decomposition and at a moderate cost, and thus the public were able to obtain cheap, wholesome, and agreeable beverages free from the risk of moral and physical evil which attended the use of alcoholic drinks. They challenged the opponents to bring forward a single instance in which it could be shown that bodily harm had resulted from salicylic acid employed as a preservative and they denied that it was possible for anyone to be injured by it in the proportion in which it existed in any of the preserved articles which had been brought to their notice.—Mr. F. T. PAUL had supported the medical officer of health in his endeavour to check the excessive use of salicylic acid as a food preservative on the grounds that (1) chemical preservatives were undesirable; (2) salicylic acid was a poison; and (3) it was unnecessary to preserve the articles in which it was used. The first was an opinion shared by most medical men. The second point had been sufficiently proved at the time that salicylic acid was largely given for acute rheumatism, and he referred members to a paper he read before the society in 1876. As regards the third it was admitted by the manufacturers of the fruit juices that they only used large quantities of salicylic acid in order to prevent alcoholic fermentation and the consequent presence of minute chemical traces of alcohol repugnant to the teetotaler; otherwise one or two grains to the pint would be sufficient. The other food substance for which salicylic acid was so largely used was bottled fruit, the flavour of which it completely destroyed. Heat sterilisation in this case was alone necessary, as he had proved by extensive experiments. He agreed with other speakers that so small a quantity as one or two grains to the pint was probably harmless and need not be objected to if stated on the label.—Mr. BICKERTON could not understand denouncing salicylic acid as a "poison." He and his family had during the summer months drunk the special preparation around which controversy had raged with no appreciable effect one way or the other. He understood that it had contained 19 grains to the pint. A little of the juice only was used at a time in a tumblerful of water or soda water. The proof of the pudding was in the eating. Salicylic acid in the strength above mentioned had done harm neither to himself nor to his children, nor had he seen any ill effect produced on patients to whom he had prescribed it. As to the reported injurious effects on the mucous membrane of the stomach, he doubted it. It was quite possible that the symptom of irritation was due, not to the drug itself but to impurities in its manufacture. He had applied a saturated solution of salicylic acid to his own eye and it had no effect whatever, not even causing smarting or watering.—Dr. J. M. MOORE, Dr. J. BARR, Dr. A. S. F. GRÜNBAUM, Dr. R. J. M. BUCHANAN, and Mr. DAMER HARRISSON spoke, and Dr. MACALISTER and Dr. BRADSHAW replied.

Mr. HAMILTON described a Method for removing Foreign Bodies from the Œsophagus. The main point lay in searching

for the coin whilst the x rays were being used. Thus accurate adjustment of coin and coin-catcher was possible.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

The Prevention of Pulmonary Phthisis, including the Notification of the Disease.

A SPECIAL meeting of this society was held on Nov. 19th for the purpose of discussing the means to be adopted in the prevention of phthisis and in reference to the notification of the disease. Professor Sir THOMAS R. FRASER, the President, occupied the chair.

After the PRESIDENT had indicated the lines on which the discussion should lie,

Dr. H. HARVEY LITTLEJOHN opened the discussion and referred to the difficulty of limiting the questions involved. He spoke of the preventive methods in which medical men were chiefly concerned as contrasted with those which the municipality might adopt. He showed upon the screen several charts and maps illustrative of the general prevalence of this disease and of its gradual decline in severity (over 50 per cent.) during the past 50 years and indicated that general sanitary improvements had caused this reduction apart altogether from the special measures which they were called upon to discuss. Since 1882 they had known that phthisis was an infectious disease and therefore preventable. It was, however, true that its infectious nature had only recently been recognised by the general public who were now loudly calling for preventive measures. It was admitted that the health committee should undertake these preventive measures in the same way as it did for all the other infectious diseases. Others, again, argued that the liberty of the individual ought not to be interfered with or the province of the private medical practitioner invaded. The sanitary authority, however, had no intention of interfering with the latter, but it would rather act by direct attention being drawn by the private practitioner. The ideas of compulsory isolation of the patient and the segregation of scholars or of workmen affected, as was done in the case of other infectious diseases, might be dismissed at once. Rational preventive measures would alone be adopted and such as were founded on Koch's discovery. If people could be educated to take precautions for their own and others' safety then they would be allowed to live under very similar conditions to those under which they usually lived. Such precautions could be furthered by (1) allowing the central authority to know where the cases of phthisis were situated; (2) by the prevention of spitting; and (3) by the provision of sanatoriums for the cure, detention, or education of patients, so as to enable them later to live in their own homes. As regards notification, in 1879 Edinburgh got a compulsory Notification Act in opposition to the wishes of the then medical profession and as a result of the introduction of voluntary notification, while in 1889 the Government adopted compulsory notification for the whole country. The objections to the notification of phthisis were such as the following: (1) the great uncertainty of diagnosis (this, however, was cleared up by bacteriological examination); (2) that on account of the chronic nature of phthisis cases could not be controlled in the same way as cases of acute infectious diseases were; (3) that phthisis was not infective by contact or by the breath; (4) that ordinary preventive measures were said not to be required; (5) that notification would lead to social ostracism and the phthisical patient being branded as such in many cases would be dismissed from his employment; and (6) that the medical attendant would be interfered with. Koch's authority affirmed that compulsory notification was necessary, and what were its advantages? 1. A knowledge of the disease. A disease could not be fought apart from a knowledge of its existence and behaviour. 2. A knowledge of sanitary defects which otherwise could not be discovered was obtained—e.g., deficiency of light and ventilation, accumulations of filth, &c., and the dirty condition of houses. 3. It permitted of the education of the patient and of his family. 4. It allowed the sanitary authority systematically to cleanse and to disinfect both house and patient during the course of the disease and would so bring help to many who could not otherwise help themselves. Dr. Littlejohn hardly thought that compulsory notification would be adopted, though he should welcome it. Hitherto both the English and the Scotch Local Government Boards had refused to allow pulmonary phthisis to be notified. As regards voluntary notification, it had been asked of what use was it when it would reveal only a part of the incidence? Were the case one of scarlet fever voluntary notification would be useless, but with phthisis it was very different. The notification of even 50 per cent. would lead to an immense reduction in the cases of phthisis. Even voluntary notification would be of the greatest possible value. Medical men would thus be asked to notify only those cases which they could most consistently set apart for that purpose and these would surely be the worst cases both in themselves and in their surroundings and from these the maximum amount of good would be obtained by notification. Dr. Littlejohn narrated the experience of New York, where voluntary notification was adopted in 1894 and with such success that it was made compulsory in 1897. The good work of Dr. J. Niven in Manchester with reference to this disease was also alluded to, and it was shown that of 1000 cases investigated 350 could be traced to phthisical relatives either living in the same houses or coming to those houses as visitors. The experience of Dr. A. Newsholme at Brighton was also alluded to. Dr. Littlejohn, in conclusion, referred to the futility of placing simple notices against spitting and to the two kinds of sanatoriums required—(1) for advanced and hopeless cases and (2) for cases capable of recovery—and to the educative value of such institutions.

Mr. LANG TODD, chairman of the public health committee of the Edinburgh town council, said that in reference to this question the point of view of the municipality was different from that of the medical profession. The question had been discussed by the Edinburgh town council last year in regard to a resolution in favour of compulsory notification. This was defeated but the reply was favourable to voluntary notification. It was necessary to get the exact locus of each case before they could apply the educative policy from which such good results were expected. As regards infectious diseases the duty of the corporation was merely confined to what could be done by preventive measures, but it was rather outside its province to apply curative measures. It had been suggested that a portion of the old Edinburgh fever hospital should be retained for the more hopeless cases—say 100 beds. This would remove a very large number from centres of infection. He was hopeful that voluntary notification would lead to a knowledge of these infective centres, though personally he was in favour of compulsion. It was difficult to say how far voluntary notification would succeed but in all probability the greatest number of cases would occur among the poorest and densest part of the population. Amongst the better classes, where it would be more difficult to obtain consent to notify, their conditions were better. He thought that were the large cities in the same sanitary condition as they were in 1838 the mortality from phthisis would be excessive, and he was hopeful that in this new era a greater success would be yet obtained than in that which had just closed.

Dr. W. LESLIE MACKENZIE, of the Local Government Board for Scotland, dealt with the administrative powers of the local authorities under the Public Health (Scotland) Act, 1897. He argued that the discussion of notification sometimes obscured the actual powers and duties already possessed. In so far as phthisis was an infectious disease it could be dealt with under the ordinary Public Health clauses. Section 45 provided for examination of suspected infection in house or person—a power not to be exercised except where no medical man was in attendance. Section 47 put on the local authority an obligation to act on a medical certificate as to disinfecting of premises, the refusal to act being neglect of duty. The penalties applicable to cases of ordinary infections were also applicable to those of phthisis. The removal section (54) gave a reserve power, which put on the local authority the duty to obtemper in some way the medical certificate, either by removal to hospital or by so instructing or teaching the patient that an improper lodging was converted into a proper one. Section 56, dealing with exposure, might be used in the control of cases of phthisis, including ambulant patients under treatment or working. Section 53 covered the throwing out of sputum and infected refuse. The school clause (Section 57) was not very suitable in its present drastic form but still it imposed an obligation on parents and guardians as well as on school teachers. Clinically it was maintained that phthisis might be first implanted at school. By Section 58 no infected person or

persons living in an infected house might milk any animal or pick fruit, or engage in any occupation connected with food, or carry on any trade or occupation in such a manner as to be likely to spread such disease. How could phthisis, in its infectious stages, be excluded from this important clause? Yet no systematic inspection or scrutiny was anywhere in Scotland made of the food trades workers. The enforcing of the clause need not interfere with the current occupation of particular patients and no economic difficulty need arise. The "proper precautions" must be taught—and taught discreetly. So with several other sections. The whole demonstrated that the initiative rested with the medical practitioner or with the patient or his guardians. The local authority could not well refuse to comply if requested. The local authority had nothing to do with phthisis directly except as an infection; hence the obligations arising. The "professional confidence" objection did not apply, for there was no obligation to request the aid of the local authority, hence "voluntary notification," which was thus implied all through the Act, might be made with the patient's consent. The parish councils as a sheer necessity of poor relief had instituted systematic removal and treatment of phthisis, as in Edinburgh, Glasgow, and Dundee. Parish poorhouse sanatoriums had been erected by the Glasgow city parish and similar institutions were in course of erection at Edinburgh. Administrative necessity had thus forced the parish councils to undertake work really belonging to the local authorities. For middle-class incipient cases or for cases from the classes of clerks and shopkeepers there was room for better organisation of existing resources and for temporary subventions in advance with possible repayment in instalments. Each city should have a medical phthisis committee. The Local Government Board was right to decline approval until it was satisfied that notification would be followed up by reasonable handling of cases. So soon as that was secured the case for compulsion would be overwhelming.

Dr. R. W. PHILIP spoke of the extreme frequency and high mortality of the disease. As regarded notification, he had proposed compulsory notification fully ten years ago, and at that time also he had advocated the setting aside of a certain number of beds for phthisis cases in an infectious diseases hospital. He thought that compulsory notification was the only sound logical solution and that experience had shown that difficulties tended to melt away with its employment. The objections to compulsory notification were trivial as compared with the gravity of the issues. The chief practical difficulty had been that the Local Government Board had naturally been reserved and had not passed a very definite judgment. Now, however, that the infective nature of phthisis had been proved the Board could sanction local authorities to take such steps as might be necessary. Short of that voluntary notification would be beneficial. He thought that nine out of ten patients would approve of their cases being notified. Promiscuous expectoration ought to be prohibited and to be punishable by a fine as was done in New York, Sydney, and other cities. By far the best practical solution of the difficulty appeared to be the institution of a municipal consumption dispensary. Even if the number of beds in consumption hospitals were trebled it would not suffice. Cleansing and disinfecting of the abodes of the patients ought also to be carried out. Phthisical patients presenting themselves at the Royal Infirmary or other public dispensaries ought to be directed to the consumption dispensary and so such patients could be traced to their homes. Dr. Philip thought that for an annual outlay of £500 or £600 such an institution might be run as had been successfully done in Paris and in Lille. As regards consumptive hospitals personally he had no doubt that first they ought to be provided for advanced and dying cases. The provision of hospitals for incipient cases seemed to be hardly a question for the municipal authorities but rather for the benevolent. Dr. Philip also thought that portions of the public parks, or better one suitable park, should be devoted to patients in the incipient stages where they could for themselves carry out the treatment by open-air. A restaurant near at hand where cheap dinners could be obtained would be a necessity also.

Dr. D. LAWSON of the Nordrach-on-Dee Sanatorium stated that experience in Michigan showed that in no case did social ostracism or loss of employment result from even compulsory notification. Personally he had found that phthisical patients agreed in stating that the general public were not interested in the cure of consumption because they were not educated as to its origin and propagation, but they asked that the treatment should in most cases be undertaken by the municipality.

Dr. D. NOEL PATON referred to the great danger caused by expectoration and thought that repressive measures were necessary. The local authority had already powers to deal with this and he thought that suitable receptacles ought to be provided by that authority. He was very sceptical as to the benefits of voluntary notification.

Dr. A. LOGAN TURNER briefly narrated the methods adopted by the New York Board of Health and advocated the institution of culture stations. He recalled the repressive measures adopted against this disease more than a hundred years ago in Naples and stated that now there were hardly any cases of the disease in the city of Naples, while Italy had the fewest number of cases of phthisis of all countries in Europe.

Dr. T. F. S. CAVERHILL having spoken, Dr. BYROM BRAMWELL proposed the following motion which was carried unanimously:—

That in the opinion of this meeting of the Medico-Chirurgical Society of Edinburgh the compulsory notification of pulmonary phthisis is desirable, and the society respectfully requests that the corporation should adopt it.

Dr. PATON moved—

That a copy of this resolution shall be sent to the Local Government Board of Scotland.

The PRESIDENT said that the discussion and the resolution now carried showed that the members of the society were convinced that compulsory notification was preferable to voluntary notification and that the former should be adopted. In reference to Dr. Bramwell's remarks the impression was conveyed to his (the President's) mind that Dr. Littlejohn in his most instructive statement did not support voluntary notification as the best form of notification, but only as the most practicable at the present time. He (Dr. Littlejohn) appeared to foresee that compulsory notification, especially if abruptly adopted, would originate so great an amount of work on the part of the sanitary authority and so large an addition to the existing organisation and financial expenditure as to be impracticable or at least inadvisable, and that the best results of notification would be ultimately more perfectly secured if a commencement were made by notification of the voluntary description, where the notifications would be relatively few in number. For his (the President's) part he should have been more satisfied had those who had addressed the meeting indicated more fully than had been done the actual steps and proceedings that were to be adopted as a result of notification. The circular issued by the public health committee mentioned no other object of notification than the obtaining of precise information as to the amount and localisation of pulmonary consumption in the city. The chairman of this committee had thrown no further light on the subject as he had only told the meeting that the committee could do nothing until its members knew how much phthisis they had to deal with, but surely the mortality returns in their possession had already informed them that there was a large amount of this disease and they knew exactly where the deaths had occurred. It was not unreasonable to expect that before the public health committee had decided to invite the members of the profession to adopt notification it had arranged its plan of campaign against phthisis. It would be a great disappointment if the committee had no other immediate object than the collection of statistics. Several of the speakers, however, had assumed that action in certain directions would follow notification and chiefly in the form of diffusing information as to the dangers of infection and the means for preventing it, the cleansing and disinfection of the dwellings of phthisical patients, and the removal of patients to hospitals or shelters wherever that was called for. Entirely agreeing that these measures were likely to be beneficial the President at the same time held that too high expectations as to the amount of benefit ought not to be entertained. It was notorious that the greatest incidence of phthisis was amongst the poor and uneducated. Could they expect these ever fully to comprehend the instructions that it had been assumed would be conveyed to them and much less to carry them into effect with that continuous exactitude which was necessary? Cleansing and disinfecting of houses stood in a very different relationship to phthisis than they did to other infectious diseases of brief duration. Would it be possible to disinfect a room containing a phthisical patient with any degree of efficiency? and if once disinfected how long would it remain so while it

contained a patient who was nearly continuously infecting it with his sputum? He (the President) could not imagine that any staff which the financial resources of that or any other city would justify could ever secure that the rooms occupied by patients suffering from pulmonary phthisis would by these means be kept in a non-infective condition or in a condition which did not admit of repeated reinfection. It could not be expected that more than a small proportion of the patients whom it might be desirable to isolate could ever be removed to homes. Their number was too large and even a moderate adoption of this measure would require a much greater expenditure than that incurred in the isolation in hospitals of patients suffering from those infectious diseases of relatively brief duration, for whom, as they all knew, extensive and expensive accommodation was found to be necessary. He fully appreciated that this and all the other measures considered would be beneficial. He doubted, however, if any or all of them would materially reduce the incidence or the mortality from pulmonary consumption. Dr. Paton had quoted some interesting facts regarding the means by which he supposed, in common with many others, that phthisis was largely diffused—viz., the custom of spitting in the streets and elsewhere. It was most desirable that this habit, in itself most objectionable, should be lessened or prevented. It required at the same time only a moment's consideration to show how impossible it would be to prevent those who used the streets from spitting on them. The man or woman who was suffering from ordinary catarrh and the man who was smoking a pipe or cigarette were among the spitters, and could they be prevented from spitting by any police regulations? The most frequent offenders were the poor and they generally did not carry handkerchiefs, neither could they afford to purchase pocket spittoons even if they could be taught always to use them. It was possible that in tramcars and in railway carriages, and undoubtedly within dwellings, the disease was thus propagated. It did not appear so clear that sputum deposited in the streets was very dangerous. The evidence which Dr. Paton had brought forward of the prevalence of this habit and the well-known fact that the sputum of a phthisical patient might contain thousands or millions of tubercle bacilli helped them to realise that these bacilli must be always abundantly present in the air of their streets and that they were very frequently inhaling the bacilli and how few of them became infected and how remarkable it was that there did not exist any evidence that phthisis had ever been so communicated. In considering this momentous question of the prevention of phthisis it was imperative to remember that although it was dependent on a specific micro-organism this micro-organism was practically non-infective in certain conditions of the exposed persons and their surroundings and was infective, and it might be virulently infective, only in other conditions. There was much evidence in support of this statement and the following experiments of Trudeau might be referred to. He inoculated a number of rabbits with the same tuberculous matter and then divided them into two groups, one of which was confined in badly lighted, inadequately ventilated, damp places, while the other group was placed in hutches in the open air with plenty of space and light. The rabbits in the former group quickly died from phthisis, whereas those in the latter group recovered and showed very slight lesions. The convener of the public health committee of the Edinburgh town council had told the meeting that his committee was waiting for evidence of the amount of phthisis and of the localities in the city where it prevailed before deciding on the measures that were to be taken. It was surely notorious that the disease was more prevalent in the poorer districts, in the overcrowded and badly ventilated and lighted houses, which the map that Dr. Littlejohn had displayed had so clearly shown. These districts might represent the places in which Trudeau's rabbits had quickly succumbed to infection. Whereas the well-ventilated and well-lighted streets and houses of Edinburgh, in which Dr. Littlejohn had told the meeting that but few people died from the disease, gave them the conditions in the experiments which were being daily made for their instruction, in which the ubiquitous bacillus lost its deadly influence and failed even to affect the mortality of the city. It was only too obviously shown that if the haunts of phthisis were deprived of their fostering evils the disease might not only be lessened but eradicated as a scourge of the citizens. Dr. Littlejohn had placed on the screen a curve showing a continuous reduction in the death-rate from phthisis in Edinburgh for several years antecedent to 1900 and during a time when much was being done to improve dwellings in the most insanitary districts of the city. They had also heard that recently in New York the case incidence of phthisis had diminished while such special anti-phthisis measures were being enforced as had received so much consideration that night; but as sanitary improvements were being earnestly carried out in New York at the same time he submitted that it was to the latter and not to the former that the credit might be due. On this question Dr. Logan Turner's statement was most suggestive and instructive, that little more than a century ago phthisis was not only reduced but eradicated in Naples after most extensive reforms had been effected in the dwelling-houses of that city and, of course, long before the tubercle bacillus had been discovered and any attempts had been made to fight the bacillus itself. It was superfluous to discuss other fostering conditions appertaining to environment or to the personal and acquired predisposition which played so important a part in inducing phthisis. Every credit must be given to their sanitary authority for what it had already done in improving the dwellings of the poor and the amenities of the city. That authority had not, however, done enough or nearly enough. He regretted much that its schemes had included dwellings of one single room, for such dwellings would much increase the difficulties of improving the general health and of reducing the incidence of phthisis. He trusted that even more vigour and activity would be displayed in structural improvements and in the enforcement of regulations against overcrowding not only in dwellings but also in workshops and offices. While he sympathised with all, or mostly all, the measures which had received chief attention he was anxious to point out that their beneficial results were probably being exaggerated by the majority of those who had spoken. The real preventive of phthisis was sanitation; all the other measures which had been insisted upon were mere makeshifts which could not much reduce the total incidence, however much some of them might lessen individual suffering and hardship. He hoped the sanitary authorities would receive every encouragement and support in actively proceeding with those measures which were effective to secure pure air, sunlight, and adequate space in dwellings, for these alone could materially reduce the incidence and mortality from phthisis, and while doing so they would also presumably influence nearly all other diseases.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SURGICAL SECTION.

Laminectomy—Hernia.

A MEETING of this section was held on Nov. 14th.

Sir THOMAS MYLES read a paper on Laminectomy for Paraplegia due to Spinal Caries. He gave details of two cases, of which one was successful and the other experienced no benefit. He discussed the opinions of Sir Victor Horsley and other surgeons and expressed the opinion that early operation was to be recommended.—Mr. J. P. DOYLE said that he performed laminectomy on a patient in 1892. He found pachymeningitis and an abscess in front of the cord. Cystitis was also present. The patient had had paraplegia. There was improvement for two or three days but subsequently the patient did not do well. Most cases would get well if treated by rest and extension.—Mr. R. L. SWAN said that one danger from the operation might be a rapid dissemination of the tuberculosis. Cystitis was one of the indications for laminectomy. Some years ago he operated on a case of spinal caries in a boy in which there were paraplegia and great cystitis. The patient obtained relief from the bladder symptoms but none from the paraplegia. The lumbar region was a bad place for the operation. In most cases paraplegia was caused by disease above the sixth dorsal vertebra. With regard to the operation the best plan was when the muscles were scraped away first to trephine the bases of the lower spinous processes and thus to get access to the interior of the canal. An objection he had to laminectomy was that the patient was very helpless, could neither sit up nor use his limbs, and the extensive removal of muscles, &c., was a disability not recovered from.—Sir THOMAS MYLES in reply, said that there was a great deal to be said both for and against the operation. It was a very serious undertaking, and a case

showing signs of active caries, &c., would not be suitable for it, but a case with only the paralysis should have the benefit of the operation. The treatment would be long and too expensive for hospital. The choice of instruments lay between the chisel and mallet, the trephine, or a Giglio saw. The chisel and mallet should be avoided on account of the concussion, &c.; and he thought a Giglio saw could be easily passed with a bent probe and it might not be necessary to detach the muscles but merely to turn them back as a kind of flap.

Mr. DENIS KENNEDY, surgeon to the Children's Hospital, read a communication on the Radical Cure of Hernia in Young Children. He condemned the use of trusses, because they were frequently ineffectual in keeping up a hernia and because the wearing of them was always associated with a great deal of trouble to the child. He demonstrated the safety with which the operation for radical cure could be carried out by quoting 60 cases which he had himself performed in children under five years old, many of them being under 12 months. In his operations he had three cases of strangulated hernia, all the patients in which recovered. In two cases he found the vermiform appendix in the inguinal canal and resected it in both of them, as, on account of its size, he considered that it could not with safety be returned to the abdominal cavity. He never had a death resulting from the operation.—Sir THOMAS MYLES thought that the operation was a comparatively simple one. The points to be borne in mind were the necessity for rapidity, arrest of all hæmorrhage, and great care in the administration of the anæsthetic. Treatment by truss might be successful, but it was merely mechanical and took years to effect what the operator did in as many days. He did not think congenital hernia a common disease.—Mr. J. S. MCARDLE said that he had operated on patients at all ages from three months to 84 years, and he did not see why in the absence of constitutional disease the patient should not have the benefit of the radical cure. One complication of the operation he had met with was interference with micturition, and in these cases torsion of the sac had been carried out. In congenital hernia he found no difficulty in separating the cord from the sac if he passed his finger as far as the internal abdominal ring.—Dr. E. H. TAYLOR said that he disapproved of twisting the sac. He had never had the least difficulty in the treatment of the sac of congenital hernia. He opened up the sac and then the testicle was seen, and he caught each end of it with a pair of clip forceps and put on another pair between and this enabled him to cut with the scissors along a straight line. There were two different conditions in which the cord was found: one in which the cord lay behind the serous membrane and one in which the cord was suspended by a fold of serous membrane in which it was floating.—Mr. R. F. TOBIN said that if trusses were continuously applied and worn for one or two years a radical cure was the rule. It was, however, a very tedious process and out of the reach of poor people, but those who were well to-do liked it, as it avoided the operation.—Mr. DOYLE said he believed that only exceptional cases in children should be operated on. He thought that a truss should always be worn for some time after operation.—Mr. JOHN LENTAIGNE said that he agreed with Mr. Kennedy that for most hospital patients operation was the best treatment. It was impossible for the mothers in these cases to give the care and attention that the treatment by truss required. No complicated operation was necessary. So long ago as 1884 he operated on an infant, aged 11 months, for strangulated hernia. The collapsed state of the patient was such that he had barely time to put in one or two sutures, yet he had recently seen that patient perfectly cured of the hernia by that apparently insufficient operation. He had found considerable difficulty in separating the cord from the sac in congenital cases and he would be glad to try Dr. Taylor's plan next time he met with this difficulty. He had operated on many young children since 1884 and had never had a death although the patient in the first case already mentioned had been extremely near to death.

EPIDEMIOLOGICAL SOCIETY.—The first meeting of the session 1902-03 was held on Nov. 21st, Dr. Patrick Manson, C.M.G., F.R.S., the retiring President, being in the chair for the first portion of the proceedings, after which it was taken by Dr. W. H. Corfield, the new President.—Lieutenant-Colonel A. M. Davies, R.A.M.C., read a paper entitled, What is Climatic Disease? It was formerly the custom, he said, to speak of the deadly climate of stations in the tropics, but it was soon recognised that the appalling mortality was almost wholly due to certain specific diseases or to diseases of the liver and other organs induced by drink and bad habits. It could not be denied that these were avoidable, and the late Dr. E. Parkes ventured to doubt whether apart from malaria a tropical climate was necessarily hurtful to Europeans. Laveran's discovery of the plasmodium in 1880 attracted little attention, and it was only since 1896 that the labours of Dr. Manson, Surgeon-Major Ronald Ross, C.B., Dr. Grassi, and others proved that malaria was not the necessary consequence of certain climatic conditions, but the result of infection with a parasite, and if Dr. Sambon's suggestion of a like specific cause of hepatitis, favoured by Professor W. Osler and Dr. Manson, should be established there would be no purely climatic diseases left but sunstroke and frostbite. It was hard to say how far the bacilli, mostly of the bacillus coli group, and the amœbæ found in dysentery were essential or accidental to the disease, which appeared to be also independent of climate or temperature; but whether the essential causes of hepatitis were specific or not it was certain that the attacks were almost always excited by a tropical chill, one consequent on exposure to the rapid fall of the temperature at night from perhaps over 100° F. to below 60°, as was not unusual during certain seasons on elevated plateaux in India and Africa, while hepatitis was very rare in equable, though not less tropical, climates as that of the West Indies. But a disease might be clearly due to parasites and yet strictly climatic if the bacilli in the extra-corporeal and non-parasitic stages of their life-history required a certain temperature or other conditions. Thus yellow fever never became epidemic save where the mean temperature was 72°, or spread to any extent when it was under 68°, the mean winter temperature of its tropical home. This was true of dengue also and of malarial fevers, the climatic conditions of which were those required by the particular species of mosquito serving as alternate hosts. Filaria-is was for this reason confined to the tropics. The more they learnt of the etiology of tropical diseases the less important appeared the part played by mere climatic conditions except in relation to the fauna and flora which constituted the efficient or essential factors in the causation of the disease. There was, however, a disease or state of ill-health, not so frequent as formerly, strictly due to climate—the progressive anæmia, asthenia, and cachexia caused by long exposure to great heat, alternating with sudden changes of temperature, inducing excessive action of the skin, with hyperæmia, congestion of the internal organs, and ultimately degeneration of the liver, kidneys, &c.—Dr. Manson recalled how the late Dr. Parkes had predicted the breaking down of the barrier between the diseases of the tropics and those of temperate climates, a recent illustration of which was the discovery by Dr. J. Scott Haldane of the ankylostoma in the Cornish tin mines. He was strongly inclined to the belief that hepatitis would be proved to be of parasitic origin and that the poison of beri-beri was a product of bacteria though generated out of the human body, and the same might in a sense be said of the alcoholism so generally associated with liver disease. Far too much was ascribed to chills as a cause of illness, for even in a common catarrh other factors were necessary.—Lieutenant-Colonel Bruce M. Skinner, R.A.M.C., suggested that the greater susceptibility of Europeans to the diseases of tropical countries might be explained by the effect of new climatic conditions in lowering their resistance to infection by microbes the existence of which depended on those conditions.—Major T. M. McCulloch remarked that statistics left no doubt as to the higher mortality among our troops on tropical stations apart from insanitary conditions. In the ten years 1890-99, when the conditions of barracks, &c., had been greatly improved, the annual rate of admissions to hospital per 1000 in the United Kingdom had been 706; in India, 1429; China (Hong-Kong), 1534; and West Africa, 2672, part of which must be referred to climatic conditions. In India the incidence of disease was heaviest on men in the first three years of service, after which there was a great falling off as the constitutions of the men became adapted to their new surroundings.—Dr. C. W. Daniels remarked that such tropical diseases as were purely climatic would be included in the residuum left after all due to other and ascertainable causes had been excluded, but small as was the residuum on Lieutenant-Colonel Davies's

showing he had included some that could scarcely be pronounced as climatic. For instance, Lieutenant-Colonel Davies had referred to great changes in temperature as a chief cause of hepatic abscess, but whatever might be the case in the West Indies the disease was frequent in British Guiana where the climate was most equable. With every advance in our knowledge diseases hitherto assumed to be climatic were found to be of parasitic origin and it was probable that those truly due to climate would form an insignificant minority.—Dr. A. Newsholme thought that in the behaviour of certain diseases in this country there was evidence of climatic influences. Nothing but meteorological factors could explain the seasonal prevalence of diseases, though, of course, other factors were necessary. As to hepatic diseases, if alleged facts were such there were three coöperative causes—climate, alcohol, and amœbæ.—Dr. C. F. Harford observed that no one had defined "climatic" as applied to disease. Lieutenant-Colonel Davies had used it as synonymous with tropical, but to a native of India the scarlet fever of the temperate zone was "climatic." He believed that the number of diseases referable to meteorological conditions only would in time be reduced almost to vanishing point, but he could not go so far as Dr. Sambon who, in a paper on acclimatisation, seemed to doubt altogether the influence of meteorological conditions in the production of disease, for it was evident that the effect on the vascular system of a change from a cool to a hot climate, and of that on the intestines of a radical change of diet, must render the individual more susceptible to the attacks.—Major Firth, R.A.M.C., while fully agreeing with Lieutenant-Colonel Davies and other speakers that the endemic diseases commonly held to be tropical were such in respect only of the geographical limitation of their vehicles and hosts, was surprised that so little reference had been made to what he might call tropical physiology, or the influence of heat and humidity on the functions of metabolism and excretion in all but the natives. This included an initial elevation of body temperature, lowering of pulse-rate and arterial tension, and lessening of the respiratory function, the net result of which was a deterioration of the blood, increase of the perspiration, decrease in the volume of the urine, and increased secretory action of the liver, some effete matters passing with the bile into the intestine. The hepatic congestion involved in this excessive secretion led in time to degeneration of the liver and impairment of its functions, which might fairly be called climatic, as might certain abnormal blood states directly due to prolonged heat. Two years ago he conducted observations on the urinary secretion of a number of soldiers in the Punjab with special reference to the ratio, normally constant, between the aromatic and the total sulphates, the former of which furnished a fairly trustworthy index of intestinal putrefaction, and thus indirectly of imperfect metabolism, especially of proteids, and it was remarkable that all who showed a constant excess of the aromatic sulphates succumbed sooner or later to the so-called ardent simple continued fever.

MIDLAND MEDICAL SOCIETY.—The third ordinary meeting of this society was held on Nov. 19th, Dr. H. W. Langley Browne being in the chair.—Dr. J. R. Charles showed a specimen of Cardiac Aneurysm. The patient was a woman aged 56 years, who had lived a temperate and hard-working life. She was admitted into the Birmingham General Hospital under the care of Dr. R. M. Simon for dilated heart with dyspnœa. The arteries were thickened but the urine was normal. After being in hospital for about three weeks she suddenly fell back when eating her dinner one day and died within a minute or two. On post-mortem examination the pericardium was found to be distended with 16 ounces of blood. At the apex of the left ventricle was an aneurysm of about the size of a Tangerine orange filled with clot. The heart was dilated and surrounded by masses of fat and the muscle wall was exceedingly soft and fatty. The coronary arteries were markedly atheromatous, as was also the aorta. The kidneys were sclerotic and cystic.—Dr. C. E. Purslow showed a Fleshy Mole. The interest of the case lay in the history which was somewhat peculiar. The patient, who had never been pregnant previously, last menstruated at the end of October. From then until the end of February there was amenorrhœa. She then consulted Dr. Purslow. He diagnosed pregnancy but was inclined to think that the pregnancy was of shorter duration than the amenorrhœa, as the size of the uterus did not exceed that of the eighth or ninth week. Shortly after this sanguineous discharge set in and continued for five weeks. This completely ceased and there was absolute amenorrhœa until Oct. 9th, exactly seven months. On that day severe abdominal pain with hæmorrhage set in, and on making a vaginal examination a mass was felt presenting at the os. This was easily removed with ovum forceps and proved to be a fleshy mole of the size of a hen's egg, containing a distinct amniotic cavity and presenting no traces of a fœtus. Dr. Purslow drew attention to the fact that during a period of seven months there was no vaginal discharge whatever, and thought such a long period of retention of a fleshy mole without symptoms must be very rare. The subsequent history of the case showed that at the time of the first examination the disproportion noted between the size of the uterus and the duration of the amenorrhœa must have been due to the fœtus having died at an earlier stage of the pregnancy.—Dr. Purslow also showed a specimen of Broad Ligament Cyst with Pyosalpinx. The patient, aged 28 years, who had been married six years but had never been pregnant, was admitted into the Queen's Hospital, Birmingham, with a tumour in the lower part of the abdomen, which presented all the physical signs of a multilocular ovarian cyst. It was of about the size of a six months pregnancy, soft and fluctuating in its upper part, and below and in front harder and more irregular. On opening the abdomen the cyst presented at the wound and was tapped and drawn from the abdomen. It was then seen to be a cyst of the broad ligament, and the ovary, unaffected, was seen on its surface. The nodular swelling in front proved to be a much distended Fallopian tube. The fluid in the cyst, which measured about one and a half pints, was thin and watery; that in the tube measured four and a half ounces and was found to be pus. It proved possible to tie off the broad ligament below the cyst and tube and to remove them entire, leaving the enveloping peritoneum undisturbed, and the specimen showed the cyst lying in its capsule and environed by the much distended tube. The curious point was that the cyst in growing had displaced the tube downwards and forwards, so that it lay immediately behind the pubes. The uterus was retroverted and lay behind and below both cyst and tube. The patient had made a good recovery.—Dr. Jameson Evans showed a specimen of a Foreign Body in the Optic Nerve.—Mr. Jordan Lloyd read a paper on Chronic Indigestion and its Treatment by Surgical Operation.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 20th, Dr. John Robertson, the President, being in the chair.—Dr. D. Burgess showed a case of Disseminated Sclerosis.—Mr. Arthur Connell showed the following cases: 1. Amputation of a Sacral Teratoma six days after birth owing to the most dependent part becoming exceedingly thin and being on the point of ulceration. The base was very hard. The tumour contained a small portion of bone, a section of which was shown and was found to be of the Haversian type. 2. Recurrent Inoperable Scirrhous Carcinoma of the Left Breast in a woman, aged 46 years. The primary growth was removed six years ago. Recurrence took place last year and two large tumours appeared, one situated at the sternal end of the clavicle and the other partly over the sternum and involving the second interspace. There was considerable œdema of the left arm. On August 25th double cöphorectomy was performed and six weeks later shrinking began in the tumours and with it rapid disappearance of both pain and œdema. The patient was now free from pain and was sleeping well. She was having thyroid feeding. 3. A case of Ruptured Duodenal Ulcer in which Cœliotomy with subsequent Gastro-jejunostomy was performed.[1] 4. Rupture of the Ileum in a boy, aged 16 years, due to striking the abdomen through a fall on a kerbstone. The operation was performed on Oct. 11th, 1901, 24 hours after the injury was received. The wound in the gut was easily found on the right side. The patient had now returned to his work.—Mr. S. Snell showed a young woman whom he had treated for severe Ectropion of the Upper Eyelid by Transplantation of a Large Graft. The portion transplanted was taken from another patient's eyelid who was under treatment at the same time for superabundant folds in the eyelid which were causing ptosis. The graft measured one and a quarter inches by three-quarters of an inch. Most of it had lived and the

[1] See THE LANCET, Sept. 6th, 1902, p. 674.

result was excellent.—Dr. Arthur J. Hall showed the following cases: 1. A case of Folliculitis of both Legs due to frequent saturation by oil of the trou-ers of the patient during the course of his work—the so-called oil-acne. 2. A case of Dermatitis Artefacta in a young girl—simulating a patch of ringworm—on the right arm. Since completely protecting the patch by zinc-gelatin two new patches had appeared on the legs.—Mr. R. Favell related a case of Cholecystotomy.—Dr. C. N. Gwynne read a paper on the Treatment of Certain Forms of Infantile Paralysis by Arthrodesis. He illustrated the value of this procedure by the notes of two cases thus treated, both with excellent results. One was a case of paralysis of the right leg involving all the muscles that control the knee and ankle, and the other a case of calcaneo-valgus of a severe type. The patients were both able to walk without the aid of any support or stick and their appearance did not suggest any deformity beyond the stiffness incidental to the treatment. He advocated a more extended use of this method of treatment.—Dr. J. Scrley read a paper on Diet in Typhoid Fever. He stated that in private practice, especially amongst the poorer classes, strict dieting was not, and could not be, adhered to. The mortality in private practice was less than that in hospital practice (according to Osler 8½ per cent. in the former and 13½ per cent. in the latter). Typhoid fever was not a local disease of the intestine and it might occur without marked, or even any, intestinal lesion. There was no evidence to show that perforation and relapse were due to giving solid food. As the result of giving good nourishing food the condition of the patient was more satisfactory and convalescence was shortened.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—An ordinary meeting of this society was held on Nov. 21st, Dr. A. E. Sansom being in the chair.—Mr. Frank Deas showed a child in whom the little finger of the right hand was absent, the other fingers being webbed, and the left femur was one and three-quarter inches shorter than its fellow. X ray photographs of the deformed parts were exhibited.—The case was discussed by Mr. A. H. Tubby.—Dr. Henry Ashby (Manchester) showed a Lardaceous Liver with Gummata from a girl, aged ten years, who during life had suffered from a hypertrophic condition of the bones of the forearms and tibiæ. At the necropsy the kidneys and spleen were found to be lardaceous.—After some remarks from Dr. Sansom, Mr. D'Arcy Power inquired whether the joints were examined at the necropsy and whether the thickening of the bones noted during life was due to periostitis.—Mr. Tubby asked whether the curious condition of pneumonia alba was found to be present.—Dr. Theodore Fisher (Bristol) alluded to a somewhat similar case which he had seen in a boy, aged nine years.—Mr. R. Clement Lucas raised the question of the treatment of the osseous lesions of hereditary syphilis, which he regarded as practically incurable.—Dr. Ashby, in reply, said that the bones were not examined at the post-mortem examination, nor were the joints; as regards the lungs, hypostatic trouble only was found. He agreed that in such cases mercury and iodide of potassium had little effect upon the osseous lesions.—Dr. C. O. Hawthorne showed (1) a girl, aged nine years, the subject of a Circumferential Cicatrix of the Abdominal Wall and of the Left Thigh, attributed to constriction of the umbilical cord; and (2) a patient with Coloboma (Bilateral) of the Iris, Choroid, and Optic Nerve. The cases were commented on by Dr. Sansom and by Dr. C. W. Chapman.—Dr. R. C. Dun (Liverpool) communicated the notes of a case in which a girl, six years of age, suffered from a Congenital Spina Bifida in the Lumbo-sacral Region. After the patient had been run over by a cart the spina bifida disappeared without any external escape of fluid, but at a later stage the swelling was reproduced. Eventually the sac was successfully excised.—Dr. George Carpenter read notes of a fatal case of Leukæmia of five weeks' duration in a child, aged three and a half years.—Mr. Sydney Stephenson showed a girl, aged four years, affected with Tuberculosis of the Palpebral Conjunctiva of one eye. The disease took the form of prominent masses of granulation tissue springing from the lower lid and the superior cul-de-sac. There were no ulcerations. The pre-auricular gland and the angular gland were enlarged and the whole side of the face was swollen, probably from lymphangitis. No tubercle was found elsewhere. Tubercle bacilli had not yet been demonstrated; but, microscopically, the granulations showed numerous systems of giant and epithelioid cells.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 18th, Dr. H. Angus, the Vice-President, being in the chair.—Cases and specimens were shown by Mr. J. Basil Hall, Mr. W. H. Horrocks, Dr. B. H. Slater, Mr. C. F. M. Althorp, Dr. T. Jason Wood, Mr. F. E. Meade, and Mr. H. C. Ling.—Mr. Horrocks read notes on a case of Tubal Gestation which had ruptured between the layers of the broad ligament. The case had been successfully treated by abdominal section.—In connexion with the preceding case Mr. Horrocks related a case of Tuberculous Disease of the Ovary and Peritoneum. The symptoms had closely resembled those of a case of ruptured extra-uterine gestation. There was amenorrhœa with an attack of pain, faintness, and prostration. Examination revealed a soft swelling in Douglas's pouch. The differential diagnosis of the cases was discussed by Mr. Horrocks, who pointed out that in the case of tuberculous disease there were a high temperature and vomiting.—Mr. Horrocks also read notes on a case of Morton's Disease (Metatarsalgia). The patient was a woman, 60 years of age, who four years previously had excision of the head of the first metatarsal bone performed for hallux valgus. Pain in the foot had come on with tenderness over the head of the third metatarsal bone. She was treated by excision of the head of the third metatarsal bone with relief of symptoms and was able to walk well after the operation.—Mr. J. R. McGee read notes of a case of Acute Laryngeal Obstruction in a child two years of age. The symptoms had come on suddenly one evening, the child being in apparently ordinary health a few hours before. The glands of the neck were enlarged but no membrane was seen on the pharynx. A piece of membrane was vomited but showed no evidence of diphtheria bacilli. Injection of 2000 units of antitoxin being followed by no relief tracheotomy was performed about 24 hours after the onset of symptoms. The patient made a good recovery. Mr. McGee remarked on the failure to discover diphtheria bacilli either in the membrane vomited or in the secretion which came from the tracheotomy tube. Two other members of the family subsequently had sore-throats, but in these cases also no evidence of diphtheria was found.—The case was discussed by several members and Mr. McGee replied.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on Nov. 27th, Dr. J. H. Stowers, the President, being in the chair.—Dr. E. Stainer showed three cases of Scleroderma.—Dr. E. G. Graham Little showed: (1) A case of Parapsoriasis in a small boy; and (2) a case for Diagnosis.—Mr. A. Shillitoe showed a case of Tertiary Syphilis.—Dr. A. Eddowes showed: (1) A case for Diagnosis; and (2) a case of Barber's Dermatitis.—Dr. W. B. Warde showed a case for Diagnosis.—The President then read an address on Mycosis Fungoides.

Reviews and Notices of Books.

The Practitioner's Guide By J. WALTER CARR, M.D., F.R.C.P. Lond., T. PICKERING PICK, F.R.C.S. Eng., ALBAN H. G. DORAN, F.R.C.S. Eng., and ANDREW DUNCAN, M.D., B.S., M.R.C.P. Lond., F.R.C.S. Eng. London: Longmans, Green, and Co. 1902. Pp. 1107. Price 21s.

THIS work is a dictionary of practical medicine intended to assist the general practitioner when in doubt as to diagnosis and treatment. The subject-matter is arranged alphabetically but with very incomplete cross references and seldom under more headings than one. For instance, in looking up the subject of endometritis we could not find it in the body of the text under its own heading or under that of metritis or under that of catarrh of the uterus, and finally we had to refer to the index where we discovered it under the heading of Diseases of the Uterus. In other words, the alphabetical arrangement of the subject-matter is a snare and a delusion, for conformably with the general usages of a dictionary the reader will rely on the alphabetical arrangement of the contents, though in the end he will probably find that he is compelled to refer to the index. This want of method is patent on a very cursory

examination of the pages. Some diseases are described under the heading of the organs which they attack—as, for instance, is the case with cirrhosis of the liver—while others appear under independent headings. To make confusion worse confounded stricture of the urethra appears independently, while strictures of the cervix uteri, of the intestine, of the rectum, and of the œsophagus are to be found under the heading of the organ affected. Again, amenorrhœa, dysmenorrhœa, and fibroids are described in special articles and not among the diseases of the uterus. This want of system could easily be avoided by omitting the alphabetical arrangement of the subjects described and by extending the limits of the index.

The names of the authors which appear on the title-page are a sufficient guarantee that a great variety of subjects belonging to the departments of medicine, surgery, and the diseases of women and children have been treated authoritatively by writers who possess special knowledge of these subjects. The articles on gynæcology occupy relatively a large space, while the subject of midwifery has been rigorously excluded. Tropical diseases have received extended notice, presumably from the pen of Dr. Andrew Duncan. Among these cholera and malaria are adequately and lucidly described. In the preface the authors state that it has been their endeavour to make the book thoroughly practical, so that it may be of use to the general practitioner especially in relation to all questions which concern treatment, diagnosis, and symptomatology, and we are inclined to believe that for the most part they have achieved their objects. Among the articles on purely medical subjects those of asthma and constipation strike us as entirely excellent, while in surgery the descriptions of such minor operations as are commonly undertaken by general practitioners will be found to be concise and accurate. Dislocations and fractures are also described with due appreciation of the practical points in diagnosis and of the most approved technique in the treatment. We notice, however, that although Roentgen photography is recommended as an aid to diagnosis it is not referred to as a means of watching the effect of treatment and of insuring an accurate apposition of the surfaces of the fractured bones. Since splints other than metal ones offer no obstruction to direct observation with the screen Roentgen photography confers perhaps as many advantages in the treatment as in the diagnosis.

As a book of reference "The Practitioner's Guide" will be found to fulfil all the ordinary requirements to be expected in a work of this kind and, with the exception of the general arrangement to which we have already referred, it may be relied upon to supply accurate, practical, and up-to-date information.

Cancer of the Uterus: a Clinical Monograph on its Diagnosis and Treatment, with the After-results in 73 Cases treated by Radical Operation. By A. H. N. LEWERS, M.D., F.R.C.P. Lond. With 51 original Illustrations and Three Coloured Plates. London: H. K. Lewis. 1902. Pp. 328 + xiv. 8vo. Price 10*s.* 6*d.* net.

DR. LEWERS has written this book with the object of showing that "if cancer of the uterus, whether of the cervix or of the body, be met with in a reasonably early stage there is a very good prospect that permanent relief will be secured by operative interference." To support this proposition he furnishes details of 33 cases of cancer of the uterus treated by supravaginal amputation of the cervix and of 40 cases treated by vaginal hysterectomy. Of these 39 were cases of cancer of the cervix or of the body of the uterus and one was a case of tuberculous disease of the cervix. These include all the cases of cancer of the uterus operated upon by the author up to April, 1899. Of the first series of supravaginal amputation of the cervix eight cases, or 24·8 per cent., were known to be alive and free from recurrence for periods of from four to more than 15 years after the operation. Of the second series of 28 cases of vaginal hysterectomy for cancer of the cervix six cases, or 21·4 per cent., were known to be alive and free from recurrence for periods of from over four to seven years after operation—a grand total of 14 out of 61 cases of cancer of the cervix, or 23 per cent., free from recurrence for periods of from four to more than 15 years after operation. Dr. Lewers considers a period of freedom from recurrence for four years as equivalent to cure, as he personally has never seen a case of recurrence after the lapse of four years from the time of operation. If, however, a period of freedom from recurrence for five years be accepted, as recommended by some writers, then the results are six, or 18 per cent., of the cases of supravaginal amputation and four, or 14 per cent., of the cases of vaginal hysterectomy, free from recurrence after five years, or a total of 10 out of 61 cases, or 16 per cent. of cures. It must be noted that these figures are obtained by taking into consideration all the cases operated upon, including cases lost sight of, incomplete cases, and cases of a doubtful nature. If Winter's statistics of 300 cases with 69 cases of freedom from recurrence after five years be regarded in the same way they give a percentage of cures of 23. The author rightly insists that if cases of cancer of the uterus are to be beyond criticism they must be rendered in full detail and the microscopical specimens must be subjected to an independent authority for investigation. The specimens should further be shown to some scientific society and kept for future reference. All these criteria have been observed in his own cases.

The greater part of the book—in fact, some 190 pages out of 328—is taken up with the clinical histories of the cases. Dr. Lewers, who at one time was a warm advocate of the operation of supravaginal amputation of the cervix, has now abandoned this operation in favour of vaginal hysterectomy. The reasons which he gives for this change of view are as follows. After an extensive supravaginal amputation of the cervix, especially where the cautery is employed, the opening left is very likely to contract and to lead to obstructive dysmenorrhœa or even to retention of the menstrual fluid, as in one of his own cases. An extensive supravaginal amputation is more difficult than a vaginal hysterectomy, while the operation of removing the rest of the uterus in a case after removal of the cervix where the incisions are found not to be sufficiently clear of the growth is more difficult than the primary operation of vaginal hysterectomy. The greatly lowered mortality of vaginal hysterectomy and the absence of any troublesome sequelæ render it a preferable operation at the present day. The argument based upon the lessened mortality after total removal of the uterus holds good only as regards a comparison of the results obtained at the present day with those of former days. That vaginal hysterectomy is still a much more dangerous operation than supravaginal amputation of the cervix is well shown by the author's own figures. His mortality after supravaginal amputation is *nil*, while four out of 40, or 10 per cent., of his cases of vaginal hysterectomy died. We notice, too, that all the four fatal cases were patients with cancer of the cervix.

The interesting question whether the condition of the patient with recurrence of the disease and with the body of the uterus left is not better than that of the patient who has had the whole uterus removed is not discussed. Out of 11 cases of vaginal hysterectomy for cancer of the body of the uterus five, or 45 per cent., remained free from recurrence for periods of from four to nine years after the operation.

The detail and thoroughness with which the cases are recorded render the book of great value. The detail is, however, carried to an extreme. The information given as to where the patient came from and what particular nursing home she went into is quite out of place in a scientific work.

There is, too, a great deal of unnecessary repetition. The same arguments are repeated twice over on pages 55 and 57 in almost the same words. Apart from these minor defects the book is a good example of accurate clinical observations and of the lessons to be deduced therefrom. In the hope of diffusing a better knowledge of the early symptoms of cancer of the uterus amongst women themselves the author suggests that a leaflet giving the essential facts should be drawn up and issued by the Cancer Committee of the Royal College of physicians of London and Royal College of Surgeons of England. This might be distributed to medical men, matrons, nurses, and others who could be trusted to use the knowledge to good purpose. In this way Dr. Lewers thinks that a greater proportion of cases of cancer of the uterus would come under the notice of the profession at an early stage.

The Elements of Bacteriological Technique: a Laboratory Guide for the Medical, Dental, and Technical Student. By J. W. H. EYRE, M.D., M.S. Durh., F.R.S. Edin., Bacteriologist to Guy's Hospital, London, and Lecturer on Bacteriology in the Medical and Dental Schools; formerly Lecturer on Bacteriology and Joint Lecturer on Practical Hygiene in the Charing Cross Hospital Medical School and Bacteriologist to Charing Cross Hospital, &c. With 170 Illustrations. London and Philadelphia: W. B. Saunders and Co. 1902. Pp. 371. Price 10*s.* 6*d.* net.

THIS work will be heartily welcomed by bacteriologists. Notwithstanding the rapid multiplication of text-books of bacteriology and laboratory manuals there is ample room for a work on the lines of the volume under review. The two or three chapters devoted to bacteriological technique in most text-books are, in view of the increasing difficulties in the determination of bacteriological species, no longer adequate. The discovery of numerous intermediate organisms bridging the gaps between what a short time ago were considered well marked and distinct groups has rendered it essential that much more refined methods should be employed for the differentiation of micro-organisms. The old morphological and cultural characters have had to be supplemented by an extended study of the physiological, and more particularly of the chemical, activities of the microbe. This side of the subject receives due attention in the present work—within the necessary limits of space—and the methods advised are adequate and are clearly described. Of necessity, however, the instructions for the chemical identification of micro-organisms bear the same relation to the study of chemical changes wrought by bacteria that the directions in a manual of analytical chemistry bear to the problems of general chemical science. The truth is that for the proper study of the chemical activities of a micro-organism the investigator should be a properly trained chemist and unless this part of the subject passes into the hands of those who have had the necessary training there is a risk that bacteriology will fall into a slough of inaccurate and unscientific work such as that from which physiological chemistry is now with the utmost difficulty slowly emerging.

The present work describes itself as a laboratory guide for the medical, dental, and technical student and is an expansion of laboratory directions which have been thoroughly tested by practical use. The book is, indeed, stamped throughout with evidence that the writer is a practical teacher and the directions are more clearly given and the various steps of the different processes are more adequately described than in any previous work with which we are acquainted. There is also a strict adherence to the clearly expressed aim of the work to serve as a manual of technique, though, perhaps, Chapters VII. and VIII. trench somewhat on the ground of systematic bacteriology. The work of Dr. Eyre on the cultivation of the diplococcus pneumoniæ—work with which the late Dr. Washbourn was associated—showed the extreme importance of the reaction of the nutrient medium on the successful cultivation of micro-organisms and to this subject of the standardisation of media much of Dr. Eyre's work has been directed. As was to be expected we find the preparation of nutrient media and their standardisation fully treated in Chapter IX., the methods and notation of the American Committee of Bacteriologists being adopted with slight variations. The results of Dr. Eyre's own work on the increased volume produced by the addition of agar and gelatin to nutrient broth and the point at which the acidity due to hydrolytic changes caused by boiling ceases to increase are also incorporated.

Aerobic and anaerobic methods of cultivation—especially the latter—are carefully described and with a refreshing absence of the vagueness which so often characterises these descriptions. We have had to complain of the inadequate and even gravely misleading descriptions of the "hanging-drop" method of culture which have appeared in several recent works, but here there is nothing to find fault with. The author wisely adopts in its entirety the excellent and appropriate terminology for the description of micro-organisms and their cultures which was introduced by Chester in his work on Determinative Bacteriology. The methods of determining the physical constants for bacteria, such as the optimum temperature, the thermal death-point, and the resistance to the action of light, drying, and other destructive agents, are very well described, and excellent also are the practical instructions for the experimental inoculation of animals. In order to render the book more complete for the purpose of the medical student a chapter entitled Outlines for the Study of the Pathogenic Bacteria is introduced. The last portion of the book contains instructions for the bacterioscopical analysis of water, air, soil, milk, and various food materials. Here, as throughout the book, the instructions are clear, practical, and thorough, and we can well believe that they represent the methods actually employed by the author. Possibly it would be outside the scope of this work, but some indication of what the writer considers to be practical standards for estimating the excellence or otherwise of a water-supply would have been very welcome. At present each bacteriologist seems to pursue his own methods and to apply his own standards in the analysis of water, so that progress in the discovery of a trustworthy basis for the acceptance or rejection of a water-supply on bacteriological grounds is slow.

A great feature of the book, and one which the author rightly values, is the large number of illustrations. We agree with Dr. Eyre that drawings such as these are of high educational importance and are not only useful in themselves but as suggesting forms of apparatus adapted for new purposes.

The publishers have done their part well, the printing, paper, and reproduction of the various illustrations leaving little to be desired. The book will certainly find a place in all bacteriological laboratories.

The Work of the Digestive Glands. Lectures by Professor J. P. PAWLOW, Director of the Physiological Department of the Institute for Experimental Medicine, St. Petersburg. Translated by W. H. THOMPSON, M.D. R.U.I., F.R.C.S. Eng. Illustrated. London: Charles Griffin and Co., Limited. 1902. 8vo, pp. 196. Price 6*s.* net.

PROFESSOR PAWLOW has long been known as one of the most able of those who have devoted themselves to the pursuit of experimental physiology, but the results of his investigations were originally published in the Russian language and it was only slowly that translations of his lectures appeared in the French and German languages. The English translation has been made from the German

text by Dr. W. H. Thompson of Trinity College, Dublin, and is in all respects highly satisfactory. The first point to which Professor Pawlow turned his attention was the improvement of the existing methods of obtaining the products of secretion. In the case of the pancreatic duct this consisted in cutting out the portion of the intestinal wall containing the opening of the duct, sewing up the intestine, and bringing the opening of the duct to the surface of the skin, to which it was fixed with sutures. The juice could then be collected by fastening a metallic funnel in such a way as to receive the secretion. In the case of the stomach, œsophagotomy was first performed, the upper and lower ends of the gullet being made to heal separately into the skin wound, and thus food introduced into the mouth could either be allowed to escape without entering the stomach or could be permitted to pass into that organ. Then, by a special operation, a separate compartment was made in the stomach which opened externally, and the nerves and membrane of this part remaining intact the operator was enabled to observe the changes in the food and secretions that took place in the larger cavity.

The first experiments showed that by this method an answer could be obtained to the question, How does the quantity of juice alter with varying amounts of the same diet? or, in other words, Is the quantity of juice directly proportional to the amount of food taken? One of his pupils, Dr. Chigin, found that with a mixed diet of 50 grammes of meat, 50 grammes of bread, and 300 cubic centimetres of milk, 42 cubic centimetres of juice escaped. With double the quantity of each of these substances the amount of gastric juice secreted was also doubled—83·2 cubic centimetres. It thus appears that the gastric glands work with great precision, pouring out an exactly proportional amount of juice, determined in the first instance by the quality of the food. Further experiments showed that the work of the glands follows a definite periodic law, the quantity rising rapidly in the case of the gastric juice during the first hour and then falling slowly for five hours; whilst in the case of the pancreatic juice the graphic curve represented a rise during the first half hour, then a slight fall for an hour, and then a rapid rise to a maximum between the third and fourth hours; this was followed by a sudden fall, ending at zero at the fifth or sixth hour. The properties of the digestive juices vary during the progress of secretion according to similar laws to those which hold good for their variations in hourly quantity. In the case of the pancreatic juice each sort of food not only determines the discharge of a definite quantity of the secretion into the intestine but also induces the discharge of a secretion containing a definite quantity of the special ferment that is required for its digestion. The greatest amount of trypsin is found in "milk juice" or juice poured out after the ingestion of milk, while there is less in "bread" and "flesh juice." The amylopsin was most abundant in "bread juice," there being less in "milk" and in "flesh juice." On the one hand, "bread juice" is extremely poor in fat-splitting ferment or steapsin; "milk juice," on the other, is very rich, whilst "flesh juice" takes up an intermediate position. Alteration in the kind of food administered leads to gradual change in the constitution of the juices secreted, which thus become adapted to the new food and better able to digest it. Such alterations, it need hardly be pointed out, furnish an explanation of the preservation of health under widely different systems of diets.

The results of inquiries into the nervous supply of the digestive glands form an interesting chapter of Professor Pawlow's work. It is shown that both the vagus and the sympathetic nerves are the chief, if not the exclusive, agents, and that the vagus trunk contains secretory as well as inhibitory nerves that run to the stomach and to the pancreas. Unexpected results were obtained from dogs on which "sham feeding" was practised, the food being eaten by the animals, but when swallowed being permitted to escape, without reaching the stomach, through the upper aperture of the divided œsophagus. The effects were compared with those which followed the re-introduction of the food into the lower orifice of the divided œsophagus. In comparing the gastric and pancreatic fluids in such animals before and after division of the vagus, Professor Pawlow has satisfied himself that the mere sight or smell of appropriate food is capable of calling forth abundant secretion. The secretion so obtained he names "psychic juice" or "appetite juice," as opposed to that resulting from the direct introduction of food. He further shows that the pancreas is a highly sensitive gland and that its secretion is easily inhibited by pain. His success in demonstrating the activity of the gland is, in fact, in great measure due to his careful avoidance of the infliction of pain in the performance of his experiments on the vagus nerve. Acidity is a powerful excitant of the pancreatic juice. Important features in Professor Pawlow's work are the conclusions of therapeutic value which he draws from his experiments. These deserve the attention of every physician and the frank confession of ignorance on many points which he admits to exist and shows that much has to be done before a satisfactory knowledge of the principles of dietetics can be said to have a sound and solid foundation.

The volume can be recommended as one full of new and interesting facts that should be read and reflected upon by all who practise medicine and who desire to have intelligent reasons for recommending to their patients systems of diet adapted to their particular derangements of digestion.

Diseases of the Nose, Pharynx, and Ear. By HENRY GRADLE, M.D., Professor of Ophthalmology and Otology, University Medical School, Chicago. With 146 Illustrations. London and Philadelphia: W. B. Saunders and Co. 1902. Pp. 547. Price 15*s.* net.

DR. GRADLE has aimed at producing a book which will enable less experienced practitioners to find replies to such questions as they will most probably desire to have answered in any particular nasal or oral case. A large amount of space is devoted to anatomy and physiology, but we note that unfortunately, from a want of clearness in the text, a false impression is sometimes conveyed of the meaning which the author wishes to express. For instance, on p. 36 we are informed that "the expired air does not enter the olfactory fissure on account of the configuration of the posterior choanæ."

In dealing with Diseases of the Nose Dr. Gradle makes some very excellent remarks on the dangers which may attend a careless use of the nasal douche and gives in full various prescriptions for nasal washes; but we think that a 20 per cent. cocaine solution, which Dr. Gradle advises to obtain deep anæsthesia of the nasal mucous membrane—i.e., one which is to last from 10 to 20 minutes—is at least 10 per cent. stronger than is necessary. The author informs us that if this solution is used on cotton-wool pledgets very tightly made no ill effects accrue but that formerly, when he used it on loose cotton-wool, he saw accidents more frequently. In the chapter on atrophic rhinitis Dr. Gradle does not give the latest views on the subject, and in the septal operations there is practically an exclusion of all operations except that known by the name of Asch. Space will not permit us to deal fully with the numerous loose statements which the book contains, though an example may be given of the remark concerning Siegle's speculum which is described as being of "limited utility."

Although the work contains, as we have intimated, many errors and inaccuracies they are due more to careless proof-reading than to want of knowledge on the part of the

author, as is amply evinced by the extremely clear descriptions and reasoning that are frequently found in its pages, and it cannot fail to afford information to the practitioner who takes it as his guide; the careful descriptions of ordinary procedures will be found to be extremely useful.

HOSPITAL MAGAZINES.

St. Bartholomew's Hospital Journal for October commences a new volume and is quite up to the level of its predecessor in the quality of its contributions. Mr. D'Arcy Power begins an article on the Elizabethan Revival of Surgery and the author's name is a guarantee of its merit. "Cystitis and its Bacteriology" is the title of a paper by Mr. G. E. Gask. The amusing "Smithfield Letters" collected by "J hn Street Road" are continued, and a late H. P. writes an entertaining paper, entitled "Hospital Studies," which will be heartily appreciated by all who have held the post of house physician. Among the other contents of this magazine is an account of the dinner to Mr. A. Willett and also of the dinner of the Cambridge Graduates of St. Bartholomew's Hospital Club.

St. George's Hospital Gazette gives to its readers a very good reproduction of a group portrait of "Our Anæsthetists"—Dr. F. W. Hewitt, M.V.O., Dr. H. Menzies, Dr. J. Blumfeld, and Dr. L. Powell. The chief article of interest is a lecture by Dr. Hewitt on the Prevention of Accidents during Anæsthetisation, delivered before the St. George's Hospital Hunterian Society, and there is also a short paper on the Finsen Light Treatment. The following appears under the heading of School Notes; presumably it was overheard in the out-patient department:—

"You don't bite your food up enough before you swallow it."

"Well, p'raps I does and p'raps I doesn't; anyhow, I domesticates it pretty well with my back teeth, I can tell yer."

Guy's Hospital Gazette.—Among the articles of interest which appear in the two fortnightly issues of this gazette for November, an editorial article entitled "The Medical Profession," which is inspired by an article in a lay contemporary, is well worthy of perusal. May we take this opportunity of reminding the editor of the *Gazette* that he must have overlooked the motto "*Audi alteram partem*" which stands at the head of our correspondence columns, otherwise he would not have called us to task for publishing a letter the tenour of which he disapproves.

The *London Hospital Gazette* continues Mr. Jonathan Hutchinson's Summer Lectures on the Natural History of Syphilis, and "Wandering Ion" gives some readable reminiscences in Deutschland. There are some light sketches and amusing notes, from among the latter of which we cull the following:—

WHAT DID SHE GET?

The following is a copy of an entry in one of the ward receipt books:—

Receipt for Clothes. Received of the Sister of —— Ward, the clothes of W. S——, namely:—All the clothes except coat, trousers, waistcoat, boots, and caps. Signed Mrs. S——.

"Winners of the Inter-Hospital Cup, 1902" forms a frontispiece.

St. Mary's Hospital Gazette, *apropos* of the retirement of Mr. Malcolm A. Morris from the active staff of the hospital, issues with the current number a fairly good portrait of that surgeon, accompanied by an appreciative sketch of Mr. Morris's connexion with St. Mary's Hospital. In his editorial notes the editor refers to the difficulty which football clubs have in raising an eleven or a fifteen and attributes the fact to Rudyard Kipling having been taken to heart too seriously by the new generation.

Middlesex Hospital Gazette for October opens with a paper on Cancer and Malaria by Professor Ludwig Aschoff of the University of Göttingen, and the Introductory Address delivered by Mr. Stephen Paget at the hospital on Oct. 1st occupies several pages. Mr. E. C. Long, principal medical officer, Maseru, Basutoland, writes a brief article on Surgical Cases and reports of hospital clubs and societies find a prominent place in the journal.

St. Thomas's Hospital Gazette opens with a very interesting paper by Dr. W. S. Colman on Three Distinguished Amateur Physicians, illustrated with reproductions of old prints. The editorial notes contain some "Literary Gems from the Samaritan Reports." A joke relating to the illness of the King will not, we feel sure, meet with disapproval on the part of His Majesty. A theory on the Causation of Cancer is given by an anonymous contributor and there is an interesting review of the Pharmacopœia of St. Thomas's Hospital.

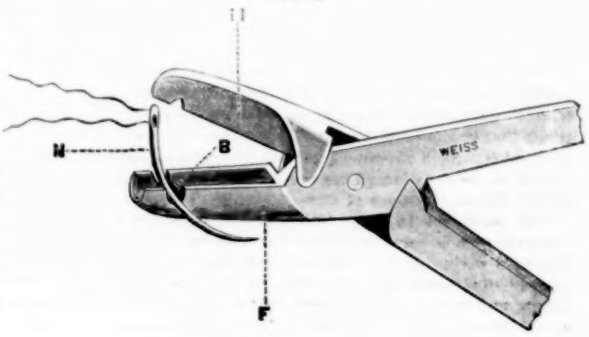
The *Westminster Hospital Gazette* is this month embellished with a caricature portrait of Dr. B. M. Abrahams who, greatly to the regret of all connected with Westminster Hospital, has been compelled to resign his post of medical registrar on the advice of his medical advisers. A mirth-provoking little sketch entitled the "Homeward Path" gives a somewhat exaggerated description of the passengers to be met with at Victoria Station in a fog and is perhaps the best article in the amusing section of this magazine. By the way, is it not a little unkind of the editor, in commenting on the statement that the nurses of Westminster Hospital are about to start a journal of their own, to suggest that "if all the current gossip of the hospital is to be included the volume will be of too bulky dimensions; if, on the other hand, it relates fact alone there will be but little to insert."

New Inventions.

THE "UNIVERSAL" NEEDLE-HOLDER.

I VENTURE to recommend the above needle-holder to the notice of those surgeons who have not yet made trial of it in the hope that they may find it as useful as I have done. The instrument is made in Germany and is made after the German model by Messrs. Weiss and Sons, 287, Oxford-street, London, W. The "Universal" holder has two jaws—an upper, which may be called the male, and a lower, the female. The latter is hollow and has a U-shaped piece cut out from either side quite close to its extremity. Each U-shaped piece is connected by a transverse bridge which is grooved on the top for the reception of the needle. The male blade is solid and it too has a V- or a U-shaped piece cut out from near its extremity. When the blades are locked the U-shaped piece of the male blade fits over the bridge of the female blade and exercises equal pressure on the needle placed in the groove of the latter. In Fig. 1, where the blades are represented for the sake

FIG. 1.



of clearness somewhat larger than they are in reality, M represents the male and F the female blade. The needle N is shown lying in the groove of the bridge B.

FIG. 2.

At the extremity of the handles of the holder is a most useful catch invented, I believe, by Dr. McPhail. By means of this ingenious device the surgeon can securely lock the blades by exercising pressure with his hand and by continuing the pressure he can unlock them whenever he pleases. This arrangement does away with the necessity of making a different movement to unlock the blades, as is the case with Hagedorn's needle-holder, and adds much to the ease and rapidity with which the needle can be secured and released. The general shape of the instrument with Dr. McPhail's catch is shown in Fig. 2. I have used this needle-holder for some little time now and have found it extremely comfortable to hold and very easy to lock and to unlock. Its greatest usefulness, however, lies in the fact that it will hold, and hold securely, any kind of needle, curved or straight, round or flat, hence the term "universal" is applied to it not without reason.

CECIL H. LEAF,
Assistant Surgeon to the Cancer Hospital, Brompton, and to the Gordon Hospital for Diseases of the Rectum.
Wimpole-street, W.

MEDICINE AND THE LAW.

Drunkenness and Neglect of Children.

THE case of Mary Keen, a Lambeth woman, who has been sentenced to two months' hard labour for neglecting her children, lends colour to the complaints that have been freely made in the newspaper press concerning the light sentence imposed on Mrs. Penruddocke, for in the case of Keen there was no evidence of any assault or intentional ill treatment. She drank hard and undoubtedly neglected her children in a very culpable manner so that their condition became a fit subject for the interference of the National Society for the Prevention of Cruelty to Children. In sentencing her Mr. Sheil called attention to Section 5 of the Licensing Act of 1902 which will come into force on Jan. 1st. This provides that when the wife of a married man is a habitual drunkard the husband may apply to a court of summary jurisdiction for an order which will absolve him from being bound to cohabit with her, suitable directions being given by the court for the legal custody of any children of the marriage and for an allowance to the wife. The section also provides in similar manner for the case of habitual drunkenness on the part of the husband.

The General Medical Council and Personation.

The final report of the Committee on the Prevention of Personation has been furnished to the General Medical Council. This committee, it will be remembered, was originally appointed in May, 1899, its object being to recommend means to secure the identification of persons applying to be admitted to the Medical or Dental Register and to prevent personation among those seeking to be either registered or re-registered. The principle proposed for adoption by the committee has been that of determining identity with the aid of the recorded handwriting of the applicant. The committee recommends that all applications for registration on the Students, Medical, or Dental Register shall be made upon prescribed forms, and that these shall be preserved by Registrars of Branch Councils so as to be accessible for reference. It is recommended that all applications for re-registration, or for registration in exceptional circumstances, shall be accompanied by a statutory declaration. Forms proposed are appended. These contain spaces for particulars of the date and place of the applicant's birth as well as for his qualifications. The forms order with insistence that the candidate is to sign in his own handwriting; they do not, however, prescribe that he should fill up the particulars himself, a possible condition which would insure a more complete specimen of his chirography.

The Personation of Medical Men.

There is another class of personation which we fear will always go on. Nothing that the General Medical Council can do will diminish the ease with which medical men can be personated by fraudulent rascals or robbed by the same fraternity, aware that a "brother practitioner" apparently in need is not likely to be sent away empty-handed. The ordinary books of reference and the brass plate on the practitioner's door make the trickery of the unscrupulous easy and the steps to be taken by the Council to keep the registers free from those who have been guilty of the deception of examiners will not affect the criminal classes at which, indeed, they are not aimed. THE LANCET[1] has lately contained warnings against two different rascals making free with the names of medical men and one of these, we observe, has now met his deserts to the extent of three months' hard labour to which he was sentenced at Brentford. His plan was to tell a tale of a lost purse or pocket-book and to give as his own the name of Mr. Harold Ashton of Oldham, supporting his assertion with a visiting card. The railway clerk who a few weeks ago was sentenced to five years' penal servitude for manslaughter in respect of a woman whose death was due to his attending her as a sham medical man, had used two aliases, both being the names of practitioners upon the Register. This kind of personation is not easy to detect at once, although, of course, if suspicion is aroused a letter or telegram will in most cases rapidly unmask the impersonator.

De la Warr v. Wills.

The plaintiff in this case sought to restrain the defendant by injunction from using a house let to him at Bexhill in such a way as to be a nuisance or annoyance or injury to himself or the adjoining occupiers, contrary to a covenant in the lease whereby the premises were let to the defendant. The alleged nuisance or annoyance arose out of the use of the premises by the defendant, Dr. Wills, a medical practitioner, as a private hospital for the open-air treatment of consumption. After evidence had been called on both sides, Mr. Justice Farwell held that the hospital was not so used as to be an annoyance; that the case had been put forward on insufficient grounds; and that the action failed and must be dismissed with costs—a result upon which Dr. Wills is to be congratulated.

[1] THE LANCET, Oct. 11th (p. 1026) and 18th (p. 1096), 1902.

GLASGOW UNIVERSITY CLUB, LONDON.—The members of the Glasgow University Club, London, dined together on Nov. 28th at the Trocadéro Restaurant, Piccadilly-circus, W. The chair was taken by Professor James Dewar, LL.D., F.R.S., and among those present were the Right Hon. Lord Shand, Sir James Blyth, Bart., Sir William Crookes, F.R.S., Sir James Reid, Bart., K.C.B., Sir Henry Craik, K.C.B., the Right Hon. James A. Campbell, M.P., Mr. Osmond Williams, M.P., Sir George Hare Philipson, Professor D. W. Finlay, Professor J. M. Thomson, F.R.S., Professor H. E. Armstrong, F.R.S., Mr. Francis Elgar, LL.D., Dr. D. C. McVail, Mr. Edmund Owen, Lieutenant-Colonel W. Babtie, V.C., Dr. George Ogilvie, Dr. William Hunter, Principal Yule Mackay, M.D. Glasg., Dr. George A. Heron, and Dr. Douglas Kerr. After the loyal toasts had been honoured Professor Dewar, the chairman, proposed "The Club" in an effective speech. He discussed the necessity for the cultivation and extension of scientific study in the Scottish Universities and controverted the proposition that such study was likely to prove adverse to liberal education and literary taste and development. The experience of Glasgow, Professor Dewar urged, was itself a contradiction to this suggestion, for in the midst of a busy commercial and industrial life there existed a school of painting which had attracted the attention of the entire artistic world, and a literary impulse which had produced such a writer as the author of "The House with the Green Shutters." Other toasts and a programme of music followed, and during the evening a telegram was sent to Mr. Andrew Carnegie, LL.D., congratulating him upon his recovery and wishing him a rapid convalescence.

THE LANCET.

LONDON: SATURDAY, DECEMBER 6, 1902.

The General Medical Council.

THE proceedings at the seventy-fifth session of the General Medical Council, which came to an end on Tuesday afternoon, Dec. 2nd, were businesslike and valuable. There was no very contentious subject before the Council and no particular inducement to gallery oratory, and as a consequence a good deal of useful work was got through. The time at the disposal of the Council is much increased by the settlement for good or ill of the midwives question.

The draft of a proposed new Medical Acts Amendment Bill was brought forward and led to a highly interesting debate. The Bill recognises frankly that the pecuniary affairs of the Council need drastic reform, and proposes to adjust income and expenditure for the future by providing for an increased fee payable by medical men upon admission to the Register, and for a fee to be paid by students desiring to enter their names upon the Students' Register. The Bill also provides that the existing system, by which the Branch Council for each division of the kingdom receives and administers the moneys appertaining to that division, shall cease, and that instead the General Medical Council as a whole shall carry on the financial affairs of the Council and shall appoint and pay all the officers. This suggested concentration of the financial affairs of the Council is, we think, a wise move, while it follows, as a matter of course, that if the General Medical Council as a whole has to pay all the salaries and wages the General Medical Council as a whole must have the discretion of making all the appointments. The feeling of the Irish and Scottish representatives upon this matter is not similar, but the circumstances in which the two countries lie are not identical. The Scottish Branch Council is in a good financial plight and would bring into the common pool funded property to the value of £5000. The Irish Branch Council has no money at all, and the representatives of Ireland may well feel that any arrangement for the future constitutes a reform, as nothing can be worse than the plight in which they now find themselves. Dr. MCVAIL strenuously objected to the clause in the Bill which provided for the consolidation of the Council's pecuniary affairs. He described the proposal as "tearing up the whole constitution of the Council and its branches," and considered that the proper course for the Council to pursue would be to increase the responsibilities and duties of the Branch Councils and to save money by lightening the work of the Council as a whole. But unfortunately the Branch Councils cannot relieve the General Medical Council in any effective way. We may cite two examples. As Sir WILLIAM TURNER pointed out in his opening address to the Council, the financial burden placed upon the Council by the new Midwives Act forms a forcible argument for the suppression of the Branch funds and the institution of a common purse. The duty of the Council in respect of the Central Midwives Board will entail expenses which are to be met by the English Branch Council, but the work must be done and the responsibilities borne by the Council as a whole. Again, the penal work of the Council, which is exactly the sort of work that at first sight might well be delegated to a Branch Council, must, by the provisions of the Medical Acts, be discharged by the Council as a whole. No one can help sympathising with Dr. MCVAIL'S desire to keep in the hands of the Scottish Branch Council the power of making appointments which the Branch now enjoys, but we feel that the arguments for a concentration of financial business are very strong, while, as a matter of course, whoever pays the bill must have the patronage. And, after all, is not Dr. MCVAIL a little more uneasy than he need be? Clause 1 (2) of the suggested Bill leaves the Branch Council the privilege of nominating its Branch Registrar, and we may be certain that the Council as a whole would never disregard the nomination of the Scottish Branch unless for reasons that would fully justify the discretion vested in it.

We recommend our readers to study the Bill in the shape in which it was presented to the General Medical Council, and the debate upon the measure, which will enable them to understand the financial position of the Council. For the present the Bill is referred to the Financial Relations Committee of the Council for further consideration of economies in expenditure, and undoubtedly before Parliament is asked to give the Council a largely increased income it must be shown without fear of contradiction that its present income cannot be made adequate, however carefully it be administered. For our own part we do not believe that any minor economies will meet the existing grave discrepancy between income and expenditure, amounting to some £1500 per annum; while we hesitate to recommend the lowering of the fees of the members of the Council and believe that any curtailing of the proceedings in penal cases—an alternative measure of economy—might lead to miscarriage of justice.

The Place of Bacteriological Diagnosis in Medicine.

THE aim of medical art is to cure or to relieve disease and in order to accomplish this object correct diagnosis is essential. This may seem a truism to mention which is quite unnecessary, but, as a matter of fact, the temptation to medical men to treat symptoms is often very great, even when they are quite guiltless of homœopathic heresy, so that it does no harm to insist a little upon this obvious point. Any measure, any procedure, that will aid us in detecting maladies, so that they can be relegated to their disease groups and receive the treatment indicated by their origin, must be willingly investigated, and, if its claims as a scientific advance can be substantiated, it should be made welcome. This is

another truism, but are there not yet among us those who regard bacteriology as being to some extent an unnecessary refinement upon the accepted methods of diagnosis? They see in the details of bacteriology evidences of work that has left the beaten track of professional education; while they do not always remember that the results of this work, like its aim, may be as strictly useful to medical diagnosis as, say, taking the temperature of a patient. In no department of clinical medicine have greater advances been made than in the application of bacteriology as an aid to diagnosis. Comparatively a few years ago the use of the microscope in assisting us to arrive at correct conclusions concerning disease in the living patient was limited for practical purposes to certain affections of the kidney. Now the microscope plays a part along the whole gamut of disease and the value of bacteriological processes to sufferers of all sorts and conditions can hardly be over-estimated. Clinical laboratories have consequently been established at all our large hospitals, while in many important towns the municipalities have furnished the necessary facilities to enable bacteriological examinations to be carried out for practitioners by experts. Certain processes having their origin in bacteriology have now become matters of routine, such as the examination of sputum for the bacilli of tubercle, the examination of "swabs" from cases of diseases of the throat of doubtful character, and the examination of the stools in various forms of diarrhœa. The behaviour of the blood in the carrying out of recognised "serum reactions" is also very generally noted, the result being rightly regarded as having a most valuable bearing upon diagnosis. A score of other examples where bacteriological procedure now regulates accepted diagnostic procedure will occur to our readers.

At the recent meeting of the British Medical Association at Manchester an interesting discussion on the Place of Bacteriological Diagnosis in Medicine was opened by Dr. G. SIMS WOODHEAD, professor of pathology in the University of Cambridge, whose large experience of bacteriology in connexion with medicine renders his conclusions on the matter of the first value. Professor SIMS WOODHEAD dealt with some of the positions in which bacteriological diagnosis is occasionally at fault and showed that in these cases the circumstances were often such that they ought not to make us distrust bacteriology as a science. Referring to some of the difficulties which beset practitioners in obtaining a satisfactory specimen from the throats of patients suffering from suspected infectious disease he admitted that as a consequence of these difficulties many examinations prove negative when diphtheria undoubtedly exists. In many cases of this kind, he said, that had come under his notice the "swabs" were procured from the throats of children in whom diphtheria was confined to the larynx and naturally in such instances the result of a bacteriological examination might be negative. Again, cultures taken from patients *in extremis* or after death, where the fatal termination had undoubtedly been due to diphtheria, often give no evidence of the presence of the diphtheria bacillus, while other organisms, frequently in very great numbers, may be found. Here the explanation of the absence of the pathogenic organism seems to be that the diphtheria bacillus, after producing its characteristic effects, has been ousted from its position on the surface of the mucous membrane by the numerous putrefactive and other organisms that, as death approaches, make their appearance in the mouth. Professor SIMS WOODHEAD rightly insisted that in cases of doubtful disease of the throat, when bacteriological investigation gives a negative result, a single examination is not sufficient upon which to found conclusions. He also reminded his audience that when the diagnosis of diphtheria has been corroborated by the formation of characteristic cultures, other "swabs" should from time to time be procured and submitted to examination, as it has been fully demonstrated that the bacillus may persist in the throats of patients convalescent from the malady for a considerable period of time, and until they entirely disappear there is danger of further infection. This is a matter that has been considerably discussed in our columns. Outbreaks of diphtheria have from time to time occurred when an epidemic has been considered to be at an end, and these resuscitations have doubtless been due to the fact that some of the patients had been isolated for a less time than was actually necessary. The physician must consider it his duty to keep the diphtheritic patient under continued bacteriological observation until he is satisfied of the disappearance of the bacilli—as satisfied as he is of the disappearance of the clinical symptoms and signs of the disease. The same undoubted value attaches to bacteriological examination of the sputum in cases where tuberculosis of the respiratory tract is suspected. Here the bacteriological process is as necessary in the interest of the patient and public alike as it is when a case of suspected diphtheria is in question. Again, no value can be placed on a single examination when the result is a negative one. If the pathogenic bacilli are detected it is certain that the patient from whom the specimen was obtained is the subject of tuberculous disease, but if the germs are not demonstrated numerous examinations must be made before it can be pronounced that the malady is not of a tuberculous character. It is a question yet to be decided as to what amount of importance should be attached to the "mixed infections" in cases of diphtheria and in cases of pulmonary tuberculosis. Professor SIMS WOODHEAD is of opinion that valuable information may be obtained from a bacteriological examination in which not only are the bacilli of diphtheria classified by the observer as regards their form, but consideration is given to the other organisms present. The discrepancy in the rates of mortality between the cases infected with the long bacillus and those in which the short bacillus is the malignant agent is very considerable. Further, whatever may be the form of the diphtheria bacillus present the mortality is always higher where there is any mixed infection and persistent application of bacteriological methods may reveal some reason for this. All of which proves that much still remains to be done by the microscope, even in diseases such as diphtheria and tuberculosis, where great bacteriological results have already been obtained, while bacteriology is in this way displayed as a true handmaid to medical practice.

But too much must not be expected from bacteriology which is only an aid to diagnosis, though an invaluable aid. There are, as we have allowed, still a few practitioners,

rapidly diminishing in numbers, who minimise the information to be obtained from exact scientific procedure, regarding it as likely to be misleading or fanciful. They are wrong in their attitude, which is opposed to all progress, but, on the other hand, many enthusiastic workers are inclined to place too high a value on the knowledge to be obtained by the use of bacteriological methods. These ardent bacteriologists are prone to forget that there are essential differences between a man and a test-tube; they do not allow sufficiently for the gaps in our knowledge of vital processes. Too great stress can hardly be laid upon the fact that in order to secure the greatest amount of value from bacteriology as an assistant to clinical medicine the clinician and the bacteriologist must work together. By this plan only can the errors in diagnosis be lessened. Separation of labour can only lead to misunderstanding, but joint endeavours will produce results which will tend still further to increase the practical bond of union between the laboratory and the sick bed.

The Contagiousness of Cancer.

WE know but little about cancer and all its mysteries will not be revealed until we have solved the question of its etiology, but meanwhile there are two problems connected with this disease which are of pressing importance, and for their solution we possess at least some of the necessary material. The questions are—firstly, is cancer contagious and secondly, is it more liable to occur in certain localities, is it associated with particular houses? To answer these questions with certainty we need more facts, and for these we must depend on the careful observation of medical men, especially of the general practitioner who has opportunities which are denied to those in consulting practice. We use the word "cancer" advisedly as equivalent to "malignant growth" and do not restrict it to the pathological conception of carcinoma. Mr. A. HAVILAND has pointed out that it is quite justifiable to assume for purposes of investigation that all the various forms of malignant disease arise from one cause. This is not unreasonable, for diseases could hardly be more different clinically than phthisis, lupus, and tuberculous synovitis, and yet they are all due to a single cause—the tubercle bacillus. At the outset we are confronted by a serious difficulty. The idea of a hereditary transmissibility of cancer is so deeply ingrained in the minds both of the profession and the public that it is difficult to remove it, but the tendency at the present day is certainly in the direction of an attitude of doubt as to the existence of this transmissibility. There are indeed numerous histories in the textbooks of such cases; for instance, Sir JAMES PAGET has recorded a case in which three generations were affected by uterine cancer, and other even more marked cases have been published, but the mere fact that several members of a family suffer from the same disease is obviously no proof that it is inherited, for in all such cases we have to take into consideration the possibility of transmission by contagion or equal exposure to infection would often as well explain the facts and the histories are generally quite lacking in the necessary data. ERICHSEN said that "the hereditary nature of cancer had been established beyond a doubt," but few will now agree with this dictum, and it would be far safer at present to say that the evidence in favour of cancer being hereditary is weak and untrustworthy. We are not saying that certain people may not have some predisposition to carcinoma—that is quite another matter; a similar predisposition is seen in the case of typhoid fever.

To return to the question—Is cancer contagious? In the first place, it is certainly contagious to the patient himself, for it is not unusual to find a cancerous mass giving rise to a similar growth in a tissue in contact with it and yet not anatomically continuous. For instance, a cancer of the lower lip may be followed by one on the upper exactly opposite, and the same is seen on the labia vulvæ and on the vocal cords. In the urinary bladder, also, a malignant patch on one surface may give rise to a similar affection on that patch of the mucous membrane with which it comes in contact when the viscus collapses. Perfectly analogous are the cases in which a malignant growth becomes disseminated all over the peritoneum from one focus and instances by no means rarely occur where a malignant growth of the peritoneum high up in the abdominal cavity is accompanied by similar growths in the pelvic peritoneal pouches, the apparently obvious deduction being that portions of the growth have been transferred bodily from the one situation to the other by gravity. Inoculation experiments in animals have only in rare cases been successful, but one success outweighs many failures. HANAU of Zürich took a portion of a squamous-celled carcinoma from one rat and placed it in the tunica vaginalis of another rat, and the second rat died from cancer of the peritoneum. MORAN has succeeded in transferring a carcinoma from one mouse to another. Examples of apparent infection are numerous, but the possibility of the action of the environment has to be borne in mind. Mr. W. WHITEHEAD has recorded that a father and son both had epithelioma of the lip within a short time, and this was, perhaps, to be attributed to the fact that they were in the habit of drinking daily from the same vessel. Dr. R. BUDD of Barnstaple has recorded the fact that five surgeons of that town, all connected with the North Devon Infirmary, were in turn affected with, and died from, some form of cancer. It is suggested that they became infected from cases in the wards or at operations. In another case narrated by the same writer a gentleman suffered from carcinoma of the lip, and a little terrier, which was in the habit of licking his master's lips, died from cancer of the tongue. More striking still are the cases where the disease has been supposed to be transferred by sexual connexion, for in many instances a man has suffered from cancer of the glans penis whose wife has previously been affected with cancer of the uterus. In other cases the man has been affected first and his wife has subsequently suffered from cancer of the uterus. Numerous also are the cases in which those who have tended sufferers from cancer have themselves become affected later. In the seventeenth century TULPIUS described a case of cancer in a servant who had nursed a lady affected with the same disease. Dr. BUDD has recorded that a nurse who was in the habit of washing the infected linen of a lady suffering from uterine cancer became affected with cancer in the axilla, and in 1774 PEYRILHE mentioned that a man after nursing his wife with cancer of the breast was attacked with cancer of the jaw. In all these cases we must admit the possibility of the

direct transfer of a small portion of the original tumour from one person to another, and so far it is not necessary to invoke the aid of a cancer microbe.

There is, however, another group of cases which are only explicable on the supposition that certain localities are especially prone to cause cancer in the inhabitants. Mere coincidence is inadequate to explain these cases, for they are too numerous. There is a little village in Normandy named Saint Sylvestre-de-Cormeilles which contains only some 400 inhabitants. ARNAUDET has shown that cancer is extremely common there. The deaths from cancer in Paris form 4·16 per cent. of the deaths from all causes, but in this village the percentage is 14·88, or more than three times as great. An attempt has been made to invalidate the force of this case by showing that if we take the whole of Normandy the death-rate from malignant disease is no greater than in Paris, but, of course, this is no answer. In an extensive district like Normandy the conditions are so varied that statistics derived from this large region cannot invalidate those derived from a smaller area. In England, also, it has been shown that in certain areas the death-rate from maligrant disease is much above the average. In 1898 the Birmingham and Midland Counties Branch of the British Medical Association appointed a committee to investigate this question. The research was limited to the counties of Warwick, Stafford, Salop, and Worcester, and it was found that in certain parishes the mortality from cancer was far above, while in other parishes it was below, the average for the whole kingdom. The facts are undoubted, but their explanation is another matter. Still more striking, however, are the facts which go to show that in certain small groups of houses, or even in individual houses, an excessive number of deaths from cancer occurs. A very noteworthy case is recorded by Dr. ALEXANDER SCOTT. Three men, all unrelated, succeeded one another as night-watchmen, each one occupying the same bedroom as his predecessor; they all died from cancer within four years. Dr. CHAPMAN has put on record the fact that three successive tenants of a house all died from malignant disease of the rectum. Other striking cases have been recorded by Mr. T. LAW WEBB and by Mr. HAVILAND. In one case there were two houses under one roof with a common water-supply and a common drainage system. In one of these houses 30 years ago a man died from cancer of the rectum. The house was next occupied by a man and his wife; the man died two years later from carcinoma of the stomach, and his widow, who continued to live in the house, died ten years later from cancer of the rectum. Before the death of this patient a Mrs. R. who lived in the adjoining house had cancer of the breast and at her death the house was occupied by three maiden ladies; one of them died from cancer of the uterus and another died with all the signs of cancer of the stomach. Mr. D'ARCY POWER relates the following case. A Miss B. lived as housekeeper in a house in a suburb of London for 13 years and died from cancer of the stomach in 1884. Miss T., who had lived in the house 20 years, took Miss B.'s place and occupied her bedroom and died from cancer of the liver in 1885. Mrs. J., who had lived in the house eight years, took her place and occupied her bedroom and died from cancer of the breast and uterus in 1893. Dr. FABRE relates that in a house in Lyons four deaths occurred in ten years, all from cancer, and no deaths from any other cause.

In other cases it is difficult to know whether to look upon the disease as due to contagion or to locality. For instance, a medical man married a lady who died from mammary and uterine cancer; he later had cancer of the stomach and liver and his second wife had cancer of both breasts. Mr. R. CLEMENT LUCAS in 1883 removed a rodent ulcer from the forehead of a man who later had a return of the disease; in 1884 the man's wife had scirrhus of the breast, and in 1887 a partner living in the same house had epithelioma of the tongue.

These cases could be greatly multiplied in number, but sufficient have been related to show that there is at least a *primâ-facie* case for the theory that cancer is contagious, and also that it is associated with certain localities and perhaps with certain water-supplies.

The only possible explanation of all these facts, if they are not mere coincidences, is that cancer is microbic in origin That we have not yet found the organism and that we cannot cultivate it on artificial media cannot be advanced as valid arguments against the microbic theory, for, as Sir JAMES PAGET pointed out, the same arguments were at one time applied to the theory of the microbic origin of tubercle, leprosy, and tetanus. Whether the microbic theory be true or false time will show, but there is sufficient probability of its truth to make it our duty to be very careful of spreading the disease. There was a time when a surgeon would go straight from a case of cellulitis to perform an amputation; and the results we know. Applying our knowledge of sepsis to carcinoma we cannot fail to see that a surgeon should not incise a malignant growth and then with the same knife excise it, for there cannot but be a possibility of infecting the healthy tissue. All discharges from cancerous growths should be looked upon as possibly liable to cause an extension of the disease; the stools of patients with cancer of the bowel should be considered as possibly capable of spreading infection; and the repeated, or even the single, occurrence of malignant disease in a house should call for an examination of its drainage and water-supply quite as much as if the patients had suffered from enteric fever.

Conflicts of Medical Evidence.

IN his Presidential Address read at the opening of the Surgical Section of the Royal Academy of Medicine in Ireland Mr. L. H. ORMSBY, President of the Royal College of Surgeons in Ireland, discussed the causes of the conflicts of medical evidence frequently arising in courts of justice.[1] By a coincidence a few days later in the King's Bench Division Mr. Justice LAWRANCE, giving judgment in the case of WATERS *v.* the Brighton Gas Company, (an account of which will be found at p. 1570 of our present issue) refused to allow the successful party the costs of the medical witnesses, saying apparently, "I will give nothing to the medical witnesses," this being done presumably to mark an opinion of his lordship either that someone was to blame for laying conflicting medical evidence before him or that the medical men were themselves to

[1] THE LANCET, Nov. 29th, 1902, p. 1491.

blame in that their views did not coincide. That medical men should publicly differ among themselves is a matter of regret to no one more than to members of the medical profession, but whether such differences of opinion should impart any blame to them, or whether more or less public censure should be levelled at them without inquiry or consideration of the causes of difference is another matter. The conflicting nature of expert evidence given in courts of law is a frequent subject of public and private comment, but it is difficult to see how conflicts of expert evidence can cease to exist so long as questions which must remain essentially matters of opinion only are discussed in courts of law with issues of momentous importance to the parties dependent on them. Expert evidence is that of those whose special experience qualifies them to give it upon questions as to which evidence of fact cannot be given because the matter under inquiry is not one the facts of which can be proved as such. The contradictions of expert evidence occur in all classes of cases in which it has to be given. They are to be observed when engineers endeavour to point out and to estimate the existence and value of novelties in an invention, or where handwriting experts seek to identify or to distinguish the penmanship of a forger, as well as where medical men are called to aid the jury in assessing a claim for damages for personal injuries. In all such cases, and in many others, the contradictions are made the subject of reproach levelled at the professions of those who have honestly differed in their opinions, the witnesses are liable to every kind of suggestion of corruption and wilful error being made against them by adverse and irresponsible advocates, and judges, juries, and arbitrators, not themselves experts, have to arrive at their conclusions in spite of the contradictions as best they may. It is at the same time clear that if opinions must be given upon matters not ascertainable as facts, such opinions are not likely to coincide. It is only a matter of regret that evidence of this kind should so often be required from medical men in circumstances which make it difficult for them to refuse to give it. To go into the witness box subjects the medical witness in many cases to a disagreeable experience; he is liable to have very serious imputations of corruption and error made against him and against his profession, the members of which of all others are desirous of ascertaining and elucidating the truth.

The differences in opinions expressed by medical men may arise in assigning symptoms of illness or injury to a given cause or dissociating them from it, or in estimating the probable future duration of these symptoms or of others likely to ensue, and in a variety of other ways, but there is a particular hardship which affects members of the medical profession alone. The engineer and the expert in handwriting, whom we have used as examples, can take to pieces the machine, or the words and letters of the document, and examine the component parts in the light of their knowledge and experience. The medical man has in many cases to judge of the presence or absence of invisible conditions by symptoms not patent to the eye but described by a deeply-interested witness—the party himself. He has to risk his professional reputation upon opinions that he can only arrive at after first forming an estimate as to the veracity of the patient submitted to him, and that patient cannot be taken to pieces for demonstration of his plight to a jury.

It has been suggested that medical men should sit as assessors in lay tribunals to which medical questions are submitted, and the medical referees appointed under the Workmen's Compensation Acts may be regarded as an experiment in this direction. Such a system would have its advantages and also, perhaps, its drawbacks. We observe that Mr. ORMSBY, in the address to which we have called attention, stated that the following resolution by the Council of the Royal College of Surgeons in Ireland was recently sent to each of the judges of the Supreme Court of Judicature in Ireland, but that, so far as he knew, no answer had been received:—

> That the President and Council of the Royal College of Surgeons in Ireland, having regard to the necessarily technical nature of the medical evidence, are of opinion that in cases of actions for damages for personal injuries, the court itself should obtain the assistance of a medical expert other than those employed by the parties to the suit.

We should much like to hear the view of the Irish judges on the matter. As for Mr. Justice LAWRANCE'S attitude towards the medical witnesses in WATERS *v.* the Brighton Gas Company, though to do so savours of *tu quoque*, we must remind his lordship that every year thousands of pounds are lost to litigants owing to their counsel advising appeals to higher courts upon points which are ultimately decided against them. Again, the opinions of Lords Justices of Appeal are often over-ruled by the House of Lords at the expense of suitors to whom these differences of opinion among distinguished legal experts involve the loss of large sums of money. The positions of the two professions are not precisely similar but both serve to illustrate our contention that there are matters upon which scientific men, whether their science be medicine or law, may honestly differ, and that their differences are not to be treated as if they involved garbling of facts. We are not aware that when questions have been taken to the House of Lords costs in respect of counsel's fees are disallowed to mark their lordships' views upon the differences of legal opinion that have been ventilated before them. Our contention is that one learned and honourable profession deserves courteous treatment at the hands of another.

Annotations.

"Ne quid nimis."

THE ROYAL ARMY MEDICAL CORPS MEMORIAL FUND.

SOME months before the termination of hostilities in South Africa it was decided that a memorial should be erected to all ranks of the Royal Army Medical Corps who fell in the South African campaign. With this object, after consultation with the Director-General of the Army Medical Service, a provisional committee was formed in South Africa to consider the question generally, and the recommendations of this committee were forwarded by the Director-General to the principal medical officers of all districts with a request that they would arrange for the collection of subscriptions which Messrs. Holt and Co. had

kindly consented to receive. On Oct. 8th last a general meeting of the subscribers to the fund so established was held at 18, Victoria-street, London, S.W., Sir W. Taylor, K.C.B., being in the chair. A committee was elected, consisting of the following officers, all of whom had served in South Africa: President, Sir W. D. Wilson, K.C.M.G., late principal medical officer of the South African Field Force, Colonel W. L. Gubbins, M.V.O., Lieutenant-Colonel W. Babtie, V.C., C.M.G., Major R. J. S. Simpson, C.M.G., Major F. J. Greig, Captain A. Pearse, and Lieutenant E. B. Knox. Major Simpson was appointed honorary secretary. It was decided that each district should elect one warrant or non-commissioned officer and one man to represent the wishes of those ranks on the committee. The business of the meeting consisted chiefly in defining the duties of the committee, to which were handed over all questions regarding the obtaining of subscriptions, the design, execution, and erection of the memorial, and its site, the meeting merely expressing the opinion that it should be an outdoor memorial. The first committee meeting was held at 18, Victoria-street on Nov. 21st, when, owing to the enforced absence of Sir W. Wilson, Colonel Gubbins presided. Nine of the representatives from districts attended in person and the majority of the remainder sent written statements of their views on the business of the meeting. Summarising the proceedings of both meetings the present position is as follows. 1. Subscriptions will be gladly received from all ranks of the Royal Army Medical Corps whether the subscriber served in South Africa or not. 2. The term "Royal Army Medical Corps" here will include all Royal Army Medical Corps Militia and Volunteers as well as specially enlisted men who served in the Royal Army Medical Corps on attestation in South Africa. 3. The site of the memorial will be at Aldershot; the exact place available will have to be decided by the general officer commanding there. 4. The memorial will take the form of an obelisk, but the exact design cannot be determined till the total amount of subscription is known and also the exact site which will be granted at Aldershot. The design itself will be carried out by an architect. 5. It was decided that no permanent record of the names of the subscribers need be printed, but that it shall be distinctly shown on the memorial by whose subscriptions it was erected. The total amount received up to the present is £650. But subscriptions have not been received from all units which served in South Africa, nor have they been received from more than about 50 per cent. of the officers who served there. As it is important that the committee should know as early as possible what amount it will have to dispose of it is hoped that all those who intend to subscribe will do so at some early date. Messrs. Holt & Co., 3, Whitehall-place, London, S.W., will be pleased to receive all subscriptions, which should be distinctly marked for the "Special Fund for R.A.M.C. Memorial." The limit of the subscription has been fixed at one day's pay.

THE ANNIVERSARY OF THE ROYAL SOCIETY.

THE anniversary meeting of the Royal Society was held on Dec. 1st, the day following St. Andrew's Day. The society has sustained, as Sir William Huggins pointed out in his presidential address, the loss of many distinguished Fellows during the past year. No less than nine Fellows and two foreign members have been removed by death. The list contains the names of such distinguished men as Sir Joseph Gilbert, Sir Frederick Abel, Dr. John H. Gladstone, Sir Richard Temple, Dr. Maxwell Simpson, Mr. William Henry Barlow, the Marquis of Dufferin and Ava, Mr. George F. Wilson, and just lately Sir William C. Roberts-Austen, the chemist to the Mint, who died on Nov. 22nd. The foreign members who died during the year were Rudolph Virchow and Alfred Cornu. A remarkable fact in connexion with these losses is that many of the deceased savants were over 75 years of age, three of them being over 80 years of age and one was 90 years of age. The total years represented by the lives of these eminent men is 842, thus giving an average each of nearly 80 years. Longevity would appear to be a characteristic of men of science, and amongst the eminent Fellows of the Royal Society still enjoying health and life are quite a number whose years considerably exceed three score and ten. The past year has seen the formation of a new society, which has recently received a Royal Charter, for the organisation and promotion of those branches of learning which in foreign academies were usually included in the philosophico-historical section. The President, in the name of the Royal Society, gave a hearty welcome to "The British Academy for the Promotion of Historical, Philosophical, and Philological Studies" and he expressed the conviction that they would work together in complete harmony, remembering that each society retained its complete independence and was in no way subservient to the State. At the conclusion of his address Sir William Huggins presented the medals. The Copley medal was awarded to Lord Lister, in recognition of the value of his physiological and pathological researches. The Rumford medal was awarded to the Hon. Charles Algernon Parsons, the inventor of the steam turbine. Professor Horace Lamb received a medal for his researches in mathematical physics and Professor Schäfer received a similar medal for his researches on the structure and functions of the central nervous system—a study directed more particularly to the motor and sensory functions of the cortex of the brain. The Davy medal was awarded to Professor Svante Arrhenius of Stockholm, famous for his work upon the theory of dissociation and its application to the explanation of chemical changes. Mr. Francis Galton received the Darwin medal in recognition of his valuable writings on evolutionary studies. The Hughes medal was awarded to Professor J. J. Thompson, whose remarkable work on the phenomena of electric discharge through rarefied gases is well known. Lastly, Dr Sydney Monckton Copeman received the Buchanan medal, a medal awarded every five years for distinguished services in public health. His work on the bacteriology and comparative pathology of vaccination deservedly gained for him this award. The annual dinner was held in the Whitehall Rooms, Hôtel Métropole, when the President again referred to the national character of independence which the society enjoyed, although it frequently served as an acknowledged court of reference at the disposal of the Government. Amongst the useful committees which had executed important work were the Eclipse Committee, the Coral Reef Committee, the Tsetse Committee, and the Malaria Committee. To the toast of "The Medalists" Lord Lister responded, referring briefly to the work of those who had received medals. The company included a large number of well-known scientific men and some representatives of the diplomatic services.

COAL-GAS POISONING.

WE print elsewhere a *résumé* of an interesting trial in which an action for damages was brought against the Brighton Gas Company for alleged neglect in fitting up a gas-stove. The question to be decided was whether the illness which plaintiffs had sustained was due to the special circumstances of the escape of gas from a defectively fitted stove. The judge decided that the plaintiffs had been poisoned and that they were therefore entitled to damages. The responsibility of fixing the stove is thus put upon the

company when they or their representatives undertake this special kind of work. There is no doubt that owing to the increased amount of water gas that is put in to coal gas the public supply is rapidly growing more dangerous in character, and in the absence of any limit being placed on the amount of carbon monoxide in gas it is obviously desirable that extra care should be exercised in regard to adoption of sound fittings. It is evident that the public do not fully realise the dangerous nature of an escape of gas or of a defective gas stove. On the other hand, the gas company's representatives know, or should know, precisely what these dangerous possibilities are apart altogether from the issue of this case. It seems to us that gas companies when called upon should be compelled to protect the consumer against simple defect in the fittings, especially as the gas they supply now is more poisonous than it used to be owing to the methods of enriching it, which very materially increase the proportion of carbon monoxide.

CORONERS AND UNQUALIFIED PRACTICE.

THE letter signed "Medical Jurist" in THE LANCET of Nov. 8th, 1902, p. 1288, commenting upon an annotation in THE LANCET of Nov. 1st, 1902, p. 1209, set out the section which governs, or is intended to govern, the holding of coroners' inquests and drew the same conclusion as was drawn by the Home Secretary and quoted in the annotation above mentioned—a conclusion obviously correct. A coroner is clearly not in terms justified by the section in holding inquests in all cases of death where an unqualified person has treated the deceased and the particular coroner referred to equally clearly laid himself open to attack by avowing his intention of doing so. The question, however, which was discussed in our annotation, a question with which the Home Secretary did not deal, was as to how far the coroner is to accept the statement of an unqualified person as to the cause of a death which may be "unnatural" or "sudden" but is certainly "unknown" to the coroner until he has made some inquiry about it. The coroner is told by the Coroners Act, 1887, Section 3 (1), quoted by "Medical Jurist," to hold inquests "where there is reasonable cause to suspect that such person has died either a violent or unnatural death or has died a sudden death of which the cause is unknown." It is, however, obvious that every coroner must in practice go beyond this section and must to some extent make up his mind in all cases as to how the deceased came by his death before he decides either to hold an inquest or not to do so. Dr. A. G. Bateman, in a letter to THE LANCET,[1] called attention to the practice adopted by registrars in reporting deaths to coroners with regard to which and to many others it is for the coroners to decide what course they will pursue. In THE LANCET of Nov. 8th, 1902, p. 1280, the difficulties of the coroner on these occasions were illustrated by means of the case of Herring who had just been sentenced to five years' penal servitude for manslaughter in respect of a woman whom he treated with fatal result, on the supposition that she suffered from some form of inflammation, whereas in fact she had a strangulated hernia. Let us assume that in such a case as this no medical man has intervened, but that as there is no certificate forthcoming the coroner's attention has been called to the death. The case being in fact one of manslaughter no one will, we presume, deny that it is a proper subject of an inquest. How, we ask, is the coroner to find his "reasonable cause for suspicion" which is to justify him in holding an inquest unless he finds it in the fact that a person not possessing any registrable qualification as a medical man has attended a person who was in fact dying and is tendering to him a description of symptoms which may be correct or may be ingeniously concocted by a cunning impostor? The section does not appear to have been drafted with a view to so obvious a case as this and the introduction of the word "sudden," to which "Medical Jurist" calls attention, makes its application more doubtful than it would otherwise have been. The word seems to suggest a distinction between "sudden" and "lingering" deaths from a legal point of view, which is of no importance to medical men who are of opinion that the cause of death should be ascertained in all cases as conclusively as possible. We need not pause to wonder whether death from neglected strangulated hernia should be regarded as "sudden" or "lingering," but we may point out that in a case such as that of Herring, if we assume the quack to be reasonably plausible in his tale, there may be no cause to suspect the death of being "unnatural" or from an "unknown" cause unless the fact of the unqualified treatment is to be grounds for such suspicion. That such cases may, in fact, be cases of manslaughter is proved by the issue of the Herring case, and we presume that no one will deny the desirability of holding inquests in cases of manslaughter. It was because we decline to regard the opinion of an unqualified person pretending to practise medicine, whether honestly expressed or not, as trustworthy evidence of the cause of the death that we have commented on the answer of the Home Secretary in the case of the Birkenhead coroner and called attention to the practical difficulties arising, and have suggested that in practice coroners should regard cases treated by quacks with considerable suspicion, without enunciating any general rule which would take them beyond the letter of the section of the Coroners Act quoted.

[1] THE LANCET, Nov. 22nd, 1902, p. 1424.

COMPLIMENTARY DINNER TO SIR ALFRED COOPER.

SIR ALFRED COOPER, F.R.C.S., was the guest of the evening at a dinner at the Trocadéro Restaurant on Nov. 28th, to celebrate his receiving the honour of knighthood. The Duke of Devonshire presided and covers were laid for more than 200, including Sir William S. Church, Bart., K.C.B. (President of the Royal College of Physicians of London), Sir Henry G. Howse (President of the Royal College of Surgeons of England), Sir Thomas Smith, Bart., K.C.V.O., Sir Frederick Treves, Bart., K.C.V.O., C.B., the Right Hon. Walter Long, M.P., Viscount Valentia, C.B., M.V.O., the Earl of Kinnoull, Lord Ashburton, the Earl of Carnarvon, Lord Glenesk, the Right Hon. James Lowther, M.P., the Hon. Claude Hay, M.P., Sir Anderson Critchett, Mr. Alfred de Rothschild, C.V.O., Sir Squire Bancroft, and Sir W. B. Dalby. The Duke of Devonshire, in proposing the health of the King, mentioned that before his accession to the throne His Majesty had taken much interest in many useful and philanthropic works, but in none of them had he shown more energy than in support of the London hospitals. It had been said that in the distribution of the Coronation Honours the King had taken more personal interest than was usual, and if this were so, it might be that it was His Majesty's personal wish that the honour he had recently received had been conferred on their guest of the evening. The Duke of Devonshire subsequently proposed the toast of "The Guest of the Evening," and said that though all present were personal friends of Sir Alfred Cooper, they naturally were divided into two classes; in the one class were those who as members of the medical profession were able to judge of him professionally and in the other class were those who knew him either in their own experience or in the experience of their friends as one of the most distinguished surgeons of the day. Knighthood was a very ancient institution originally connected with the military profession; now he had been making some researches as to the origin of

this distinction being conferred on men distinguished in civil life and he had found that the first occasion on which this had happened was in the case of Sir William Walworth, Lord Mayor of London, who slew Wat Tyler, and he had no doubt that if the necessity should arise Sir Alfred Cooper would be equally ready to serve his sovereign. During recent years the honour had been conferred on great lawyers, officials, physicians, scholars, artisans, and merchants, and the only exceptions appeared to be soldiers, sailors, and clergymen. One thing was quite certain, that in this case at least merit was the sole reason for which the distinction was conferred. Sir Alfred Cooper had been for 20 years consulting surgeon to the West London Hospital and this year he was the president of the West London Medico-Chirurgical Society, and it had been felt by the staff of the West London Hospital that this was a very suitable time for the friends of Sir Alfred Cooper to show their appreciation of the honour which had been conferred on him. Sir Alfred Cooper, in reply, said: "My lord duke my lords, and gentlemen,—I cannot sufficiently thank his Grace the Duke of Devonshire for the more than flattering manner in which he has proposed my health, nor can I sufficiently thank you, gentlemen, for the very kind way in which you have received it; in fact, I am so overcome that I cannot properly express my gratitude. Therefore, gentlemen, the less I say the better, and of one thing I am certain, that you do not expect to hear from me a discourse on medicine, surgery, or hospitals in general on this occasion. I have in my capacity of surgeon had the honour of receiving a very high distinction at the hands of His Majesty the King. I thank from the bottom of my heart my numerous friends whom I see around me and especially his Grace the Duke of Devonshire for his great kindness in presiding here this evening." The Right Hon. Walter Long, M.P., proposed the health of the Duke of Devonshire, who, in reply, said that he had a great task before him and that was to pilot through the House of Lords in one week a measure on which the united wisdom of the House of Commons had spent eight months. He thought that nothing less than a surgical operation would be needed to enable him successfully to cope with the task. The Duke of Abercorn, Sir Thomas Barlow, Bart., Sir William H. Broadbent, Bart., Sir W. J. Collins, Sir George Birdwood, and many others wrote expressing their regret at being prevented from attending.

THE CITY AND ITS COMMON LODGING-HOUSES

EAGER to be to the fore in regard to sanitation the "Common Council holden in the Chamber of Guildhall" has issued new and improved regulations "for the preservation of decency and health in the common lodging-houses" within the City. These regulations are an improvement on the Common Lodging-houses Act of 1851 because more precise details are given. Thus the provision of space is now clearly defined and raised to 350 cubic feet for each adult and 175 cubic feet for each person not exceeding 10 years of age. The rules in regard to drainage and ventilation are the same as before, but the dust bin is abolished and a metallic receptacle substituted which has to be removed every day and carefully cleansed. The separation of sexes, the separation of married couples, and the provision of better bedding are insisted upon. Also great care must be taken that no one shall be allowed to sleep on the basement floor. The cleaning which the law stipulates must be effected annually, the notification of any case of infectious disease, the prompt removal of the patient, and the disinfection of the premises, are all insisted upon with more precision and emphasis than used to be the case. Then, finally, a printed copy of the regulations is to be posted up in the common lodging-houses and the keepers of those houses who fail to observe the rules are liable for each offence to a penalty not exceeding £5, to be repeated, however, day by day as the offence continues. In a word, there is nothing absolutely new in these regulations, but the law is rendered more clear, emphatic, and precise.

"A BLEACHING POWDER EXPLOSION."

IN THE LANCET of July 5th, 1902, p. 38, we commented upon a case which was the subject of an action in the King's Bench Division in which the plaintiff sued for damages owing to the injury that she received on opening an air-tight tin of chlorinated lime supplied by the Army and Navy Coöperative Society. The jury awarded the plaintiff damages and the defendants took the case to the Court of Appeal, which came up for hearing last week, with the result that the appeal was dismissed, the judges upholding the finding of the jury. Unfortunately for the defence in the action it was decided, in order to convince the judge and jury how harmless was the opening of the tin, to produce and to open one in court, with the result that the chlorinated lime was discharged and scattered itself on the witness's clothing in the same way as a similar tin had done in the hands of the plaintiff. This was enough to convince any jury. As a matter of fact, it is dangerous to keep freshly made chlorinated lime in an air-tight vessel as it is apt to give off oxygen gas. A simple precaution, however, would be, as we have already pointed out, to prick a hole in the lid before removing it.

THE MANSION HOUSE AND THE DWELLINGS OF THE POOR.

THE Mansion House Council on the Dwellings of the Poor has been in existence for 19 years. It was founded in December, 1883, with the aid of such men as Cardinal Manning, the Earl of Shaftesbury, and Mr. Samuel Morley. Since that time it has helped to keep before the public a picture of the evils caused by the high rents and insufficient house accommodation for the poor of London. This council has just issued a report of its work during the period of 18 months from January, 1901, to June, 1902. During that time inspectors from the council have visited 10,327 places and as a result of their reports and recommendations improvements have been effected in 1728 cases. In the past the Mansion House Council has helped to stimulate the local authorities to take action and to avail themselves more fully of such powers as they possess. There is still much need of such stimulation. The council engaged paid inspectors and caused visits to be made to some districts which there was reason to believe were in a particularly bad condition. After having obtained evidence the details were reported to the responsible local authority. If after a reasonable lapse of time nothing was done an application was made to the Home Secretary; and when the latter ordered an inquiry the council was represented before the Government commissioners. Now the Mansion House Council does a useful work in receiving, verifying, and forwarding complaints from poor tenants who from ignorance or timidity would otherwise put up with insanitary conditions which under the present laws can be remedied. The council thus helps to protect the tenants and to instruct them as to their rights. Further, it has distributed leaflets teaching the importance of good sanitation and cleanliness and popular lectures have been delivered. Even in regard to overcrowding it is claimed that some improvement has been effected. According to the census of 1891 there were 829,555 persons living in tenements where the average number of inhabitants exceeded two per room. In 1901 this number had fallen to 726,096. On the other hand, the overcrowding is increasing in West Ham

and other places that practically form part of London, though beyond the limits of the London County Council's jurisdiction. No amount of inspection and regulation will, however, meet this simple difficulty—namely, that the supply of houses is insufficient. While recognising this fact the report of the Mansion House Council does not give any clear indication how this great demand is to be met. Given a much greater number of tenement houses in accessible localities, the competition for house room would be less keen; rents would fall and with lower rents one of the chief causes of overcrowding would disappear.

THE DISTRIBUTION OF PLAGUE.

As regards Egypt the Director-General of the sanitary department reports that for the week ending Nov. 16th there was but 1 new case of the disease notified. This occurred at Alexandria. Only 1 case remained under treatment. With regard to sanitary measures 2187 rooms were disinfected and 25 were lime-washed. 42 sacks of effects were disinfected and 9028 sacks of rubbish were burned. The number of rats killed and burned was 92. During the week ending Nov. 23rd the number of new cases was 0. As regards the Mauritius, a telegram from the Governor received at the Colonial Office on Nov. 28th states that for the week ending Nov. 27th there were 17 cases of plague and 12 deaths from the disease.

CANCER OF THE STOMACH AND THORACIC DUCT WITH CHYLIFORM PERITONEAL AND PLEURAL EFFUSION.

INFECTION of the left supraclavicular glands in cancer of the stomach, with or without involvement of the thoracic duct, is now well known, but coexisting chyliform effusions into the serous cavities have been rarely observed. At the meeting of the Société Médicale des Hôpitaux of Paris on Oct. 31st M. P. Menetrier and M. Gauckler described the following case in which these effusions masked the primary lesion. A woman, aged 53 years, entered hospital on May 8th. She had suffered for a month from progressive dyspnœa. The dyspnœa first occurred only on exertion; latterly it occurred in paroxysms which lasted from one to three hours. Two or three weeks before admission the left upper limb became suddenly swollen and there were acute pains in the limb and left side of the neck. About the same time œdema began at the extremities of the lower limbs. It gradually extended upwards and on admission had reached the waist. The other subjective symptoms were dyspepsia, anorexia, tinnitus aurium, muscæ volitantes, and ill-defined pains in the lumbar region. The patient was pale, the face was slightly swollen, and the lips were bluish. There was general anasarca of moderate degree in the lower limbs and lower half of the trunk, slight on the right side of the thorax and well marked on the left arm which was tender in the position of the venous trunks (indicating thrombosis). The superficial veins at the proximal ends of the limbs were dilated and continuous with dilated veins on the thorax. The œdematous skin of the left supraclavicular fossa presented a shagreen appearance, like the rind of an orange, and little nodules could be felt in it. Deep palpation revealed enlarged and hard lymphatic glands which were continuous with similar enlarged axillary glands. Examination of the thorax showed only slight dulness at the bases of the lungs behind and subcrepitant râles. The abdomen was enlarged both from the anasarca and also from ascites, but no tumour could be felt and the liver and the spleen appeared to be normal. The urine was scanty and contained a trace of albumin. The temperature was 100·2° F. The principal symptom was dyspnœa which rendered speech difficult and painful and sometimes culminated in asphyxial attacks. As there was neither cardiac nor renal disease to explain the symptoms a deep malignant tumour of the mediastinum interfering, by pressure, with circulation and respiration and infecting the supraclavicular lymphatic glands was diagnosed. The œdema in the lower half of the body and the ascites increased. On May 15th there was acute pain in the right shoulder and supraclavicular regions with a slight rise of temperature. Next day the limb was œdematous and the external jugular vein was found to be thrombosed. The œdema extended to the right side of the face. On the 16th there were signs of slight pleural effusion on both sides. From the 24th to the 28th there were attacks of epistaxis and diarrhœa. On June 2nd death took place. At the necropsy about a litre of milky fluid was found in each pleural cavity. On the surfaces of the lungs a fine network of lymphatics distended with some white substance could be seen. The lungs were œdematous. The peritoneal cavity contained about four litres of lactescent fluid similar to the pleural fluid, and on the surface of the stomach were dilated lymphatics similar to those seen on the lungs. The pylorus was the seat of an ulcerated growth and was adherent to the liver. The lesser omentum contained enlarged glands. The first part of the small intestine showed chyliferous vessels. The pyloric orifice was not much contracted. The glands of the lesser curvature of the stomach and the aortic glands were invaded. In the lower part of the thorax the thoracic duct was three or four millimetres in diameter, like a hard cord, and knotty. At its termination in the neck it was contained in lardaceous tissue and was surrounded by degenerated glands, and its lumen was obliterated. The left supraclavicular and axillary glands were cancerous. The internal and external jugular veins were thrombosed on both sides. Microscopic examination showed that the lymphatics of the stomach and intestine were filled with cancerous epithelial cells and that their walls were infiltrated with them, but the infection did not extend to the surrounding tissue. The lymphatics of the liver, kidney, spleen, uterus, and lungs were involved in a similar manner. The pleural and peritoneal effusions contained cancerous epithelial cells and fatty globules the result of their degeneration. M. Menetrier and M. Gauckler explained the conditions found as follows. Cancer spread from the stomach by the lymphatics to the thoracic duct and thence to the jugular veins, producing venous thrombosis and then obliteration of the thoracic duct at its termination and stasis in all its tributaries. This led to dilatation and retrograde infection of the latter and of the lymphatic glands, all the tissues being inundated with lymph charged with cancer cells. Hence the production of the chyliform effusions into the peritoneum and pleura. The effusions were therefore not chylous. Chyliform effusion has been rarely observed in obliteration of the thoracic duct. On the other hand, a number of cases have been described in connexion with cancer of the pleura and peritoneum in which the thoracic duct was not affected.

THE LONDON SCHOOLS DINNER ASSOCIATION.

THE sufferings of children never fail to excite public sympathy and there are few charitable movements which are more deserving of support than the work of the association which provides cheap or free meals for underfed children attending the London board schools and voluntary schools. No one who is disposed to give need be deterred by the fear that his contribution may encourage the undeserving, for the pinched aspect of those who are relieved by this charity is sufficient evidence of their necessitous condition. During the year ended Sept. 30th, 1902, the association received £1166 in subscriptions and donations and out of its funds made grants of £1268 to 83 local

committees dealing with 170 schools; the two largest grants were £78 to the Homerton centre and £75 to the Hoxton centre. In addition to this, sums amounting to a total of £1454 were raised by local subscriptions for the benefit of individual schools. In all, 615,522 meals were supplied at an average cost of 1*d.*; of the whole number 538,220 were free and 77,300 were partly paid for. Hitherto the Board School Children's Free Dinner Fund and the London Schools Dinner Association have formed separate and distinct organisations, but they have now become amalgamated and the whole of the work is carried on in the name of the latter association. An earnest appeal is being made for assistance as the association has been under the necessity of borrowing on its invested capital. The offices of the association are at 117, School Board for London, Victoria-embankment, W.C.

CHOLERA IN EGYPT.

THE figures given below show the distribution of cases of, and deaths from, cholera throughout Egypt during the week ending Nov. 17th. 54 cases of cholera have been reported, against 144 in the previous week, thus showing a diminution of 90 cases. 34 have been found dead out of hospital and 21 have died in hospital, against 66 deaths out of hospital and 59 in hospital during the previous week, thus showing a diminution of 70 in the number of deaths. During the same week no cases occurred in Cairo, while 18 cases occurred at Alexandria during the same period, against two in Cairo and 37 in Alexandria in the previous week. For the week ending Nov. 24th, 33 cases have occurred against 54 in the previous one, thus showing a diminution of 21 cases. During the same week 24 were found dead out of hospital and 6 have died in hospital, against 34 deaths out of hospital and 21 deaths in hospital in the previous week, thus showing a diminution of 25 in the dumber of deaths. During the same period 21 cases have occurred in Alexandria against 18 in the preceding week. Since Nov. 4th no cases have occurred in Cairo. The cholera as an epidemic may now be said to have ceased; sporadic cases will occur, no doubt, for some time longer, but any fear of a further serious increase of the disease is in the opinion of the Director-General of the Sanitary Department at an end.

MEDICAL HONOURS IN ITALY.

ONE of our Italian correspondents writes under date Nov. 29th:—"The Upper Chamber of the Italian Legislature is not hereditary. It is elective. This characteristic it owes to the fact that the landed gentry and feudal aristocracy hold aloof from politics, being, as a rule, out of sympathy with the revolution by which Italy became a united, independent, and constitutional kingdom under the House of Savoy. They are confirmed in this attitude by the Roman Curia which says, virtually, 'We know the King of Sardinia; we do not know the King of Italy,' and they act accordingly. For this reason the Upper Chamber is perforce elective and its members are drawn from the higher middle-class, mainly from the liberal professions. Among these the medical has always had a prominent, if not actually a preferential, place, and no wonder. There has hardly been a physician or surgeon of eminence within the last half century whose early studies were not interrupted by his taking arms in his country's cause under King Victor Emanuel and Garibaldi, while to a medical man belongs the distinction of having transferred the capital from Florence to Rome. Giovanni Lanza, the then Prime Minister, is further known by his patriotic refusal to accept official salary, content to serve his not too affluent country on the income he derived from his Piedmontese practice. Nor is it only their chivalrous record in the cause of unity and independence that explains the unusually large representation of medical men among the 'Patres Conscripti.' Their intervention in debate on questions of supreme legislative and administrative importance more than justifies their presence in the Upper Chamber. Italy's future is indissolubly interwoven with the 'salus populi'—'salus' being used in its primary signification—and her 'Codice Sanitario,' the masterwork of Augustino Bertani, surgeon-in-chief to the Garibaldian auxiliaries, is year by year gaining in thoroughness and efficiency by the initiative or coöperation of her medical 'Deputati' or 'Senatori.' The latest addition to these—who may be called the 'expert contingent of the legislature'—is one whose name is well worthy to rank with the Bizzozeros, the Porros, and the Occhinis of recent memory, being no other than Achille De Giovanni, some time Rector Magnificus of the University of Padua, in which he has long held the chair of clinical medicine. Born in 1837 and proud to say with Virgil—

'Mantua me genuit,'

he studied at Pavia and while still a student was enrolled among the Garibaldini in 1859, and after his brilliant graduation served as surgeon in the same corps on the sanguinary field of Bezzecca in 1866. Since then his life has been one long record of devotion to the healing art and its practitioners of every degree—his influence and example having been conspicuously instrumental in raising professional education to its present high standard in Upper Italy. Known beyond the Italian frontier for his 'Corso Teorico-pratico di Auscultazione e Percussione,' his treatises 'Sulla Gotta,' 'Sull' Artrite Secca,' 'Sulla Patologia della Vena Cava Inferiore,' to say nothing of his 'Morfologia del Corpo Umano' and his 'Commentari di Chimica,' he is the life and soul of the Lega Nazionale contro la Tubercolosi—a malady which cost him his only son, whose bright career, prematurely extinguished, he pathetically deplores in the dedication to his latest work, 'Sulla Neurastenia.' Such is the medical consultant and teacher who, as I write, is receiving the congratulations of pupils and colleagues from oversea as well as from Italian cities and seats of learning—congratulations hardly more gratifying to himself than to His Majesty King Victor Emanuel, at whose special instance, I am informed, the Upper Chamber has been thus usefully and honourably reinforced."

MASSAGE AND MOVEMENT IN SPRAINS AND DISLOCATIONS.

THE extensive popularity of massage in the last few years has led to its employment in many cases in which, unless great care be exercised, harm may result. In THE LANCET of Nov. 1st, p. 1222, is a letter in which Dr. W. Doig describes two cases where massage and movement were employed with benefit; one of these was a sprain of the ankle and the other was a dislocation of the shoulder. What are the advantages and dangers of the employment of massage in sprains? In a sprain stretching has occurred of one or more of the ligaments of a joint and some of the fibres of these ligaments have been torn. This is followed by effusion into the ligaments, into the synovial membrane, into the surrounding tissues, and into the joint itself. Much of this effusion tends to organise, with the result that "adhesions" form which bind together the ligaments and the adjacent tendons and sometimes even form connecting bands between the articular surfaces themselves. Moreover, those ligaments which are relaxed by the position of the limb tend to shorten and thus the movements of the joint are seriously impaired. Massage is in these cases often of great benefit, chiefly because by its judicious employment this effused material is expressed from the part and carried off by the lymphatics, so that adhesions do not form. This theoretical explanation is

fully borne out by practice. In a dislocation, however, the conditions are by no means identical. In all complete dislocations the capsular and other ligaments must be torn. This is true even of the shoulder, where the capsule is more loose than in any other joint. The chief danger which may follow after reduction of a dislocation is not the stiffness that may result, but a recurrence of the dislocation and when a dislocation becomes habitual the condition of the patient is truly deplorable, for the slightest untoward movement may displace the bone. The object of bandaging and rest after a dislocation is to allow the rent in the capsule and the torn ligaments to heal and this repair will take at least two or three weeks; complete repair is the greatest safeguard against a recurrence of the dislocation. Although, therefore, unlimited movement after a true luxation is eminently inadvisable limited movement and massage will do much to assist in the full recovery of the joint, while not interfering with the healing of the torn ligaments. The movements must, however, be carefully controlled and the massage must be judicious or harm will follow.

IS FISH-CURING A DANGEROUS TRADE?

VERY large catches of herrings have lately been made off the eastern coast of England. Great Yarmouth, as everyone knows, is one of the chief towns in which this fish is cured, but few people are acquainted with the details of the work or have any conception of the way in which it is carried out. Women are largely employed and a great proportion of them come from Scotland. It has been computed that of 90,000 Scots who are engaged in the fishing industry about a quarter are women who spend some part of their time in the curing of fish. This estimate is a very rough one and should not be taken as anything more than conjecture and it is only necessary to insist that there is no doubt that the Scottish women engaged in the trade are to be reckoned by the thousand. Some of these women and girls go south with the fishing boats and follow the herrings round the coast. During the present year the heavy catches have occurred rather late in the season and large numbers of the women have been glad to start at once for a place at which work can readily be obtained. The work is hard, the hours are long, and in many cases the sanitary conditions of the curing-houses are extremely defective. The women coming from a distance have to find lodgings for themselves and it is not a matter for surprise that the sudden inrush of many hundreds of women into a town like Great Yarmouth has a tendency to cause overcrowding. In dealing with this problem alone the local sanitary authorities must have their resources sorely tried. The processes of fish-curing, whether considered in the interests of the community at large or from the point of view of the health of the worker, deserve greater attention than they have yet received. The preliminary process of cleansing the fish and removing the intestines is not infrequently performed in places which are neither properly drained nor paved, a fact to which attention has already been directed in THE LANCET.[1] The preparation of the fish for kippering is done under cover, but the buildings are often defective in regard to the flooring, the irregularities of which make it practically impossible to prevent the accumulation of decomposing organic matter. It has been suggested that fish-curing is unsuitable for young women. To such a sweeping assertion exception must be taken. The conditions under which the work is now carried on should be altered, but it would be a cruel hardship on an industrious class if they were to be deprived of their principal means of livelihood. Nothing can justify a continuance of the present conditions of some of the work-places, and although it may be true it does not do away with the evil to show that when the Scotswomen are at home they are not in a better place. There can be little doubt that as time goes on the fish-curing industry will be brought more directly under the supervision of the inspectors of factories and workshops, and it seems probable that to accomplish this end Section 41 of the Workshop Act, 1901 (1 Edward VII. cap. 22), may be of use, but it is perhaps uncertain whether the Secretary of State is empowered under this clause to make regulations by special order in the case of fish- as well as of fruit-preserving. Should he be empowered to do so it seems possible that changes for the better might be rapidly effected in the sanitary state of the factories. As matters stand at present the local authorities occasionally display a lack of activity, as in a case which lately occurred of a corporation which owned the site on the beach which was used for cleaning the fish. A sudden revolution in the working of a large industry is not to be expected, nor could it be brought about without causing great suffering which would inevitably fall chiefly on those least able to protect themselves—in this case the fish cleaners and the poor for whom bloaters are a staple article of food. Local sanitary authorities will do well in the interests not only of the health of the workers but also of the pockets of manufacturers if they will carry out to the full the provisions of the Public Health Act. Should they fail to do so without delay there is no doubt that a serious attempt will be made to prove that fish-curing is a dangerous trade. Not a little has indeed already been written to that end.

[1] THE LANCET, Oct. 19th, 1901, p. 1060.

THE CAUSATION AND TREATMENT OF STATES OF MENTAL ANXIETY AND ALLIED CONDITIONS.

THE study of phenomena formerly regarded as purely psychological but considered now as legitimate objects of clinical and neurological investigation has served during recent years to throw a flood of light on many nervous and mental conditions which occupy the borderland between health and disease. For some of the most fruitful achievements in this direction we have been indebted to Charcot and the school of neurology which he founded at the Salpêtrière. At the recent Annual Congress of French Alienists and Neurologists held at Grenoble Dr. G. Lalanne of Bordeaux presented a paper on States of Anxiety and Allied Troubles in which an attempt was made to define and to classify such conditions in the light of recent clinical and pathological observation. The condition of anxiety, said Dr. Lalanne, was a malady in which circulatory and respiratory disturbances played a prominent part. It presented various degrees of intensity, from a condition of simple apprehensiveness and restlessness to one of pain and præcordial distress, attended with feelings of suffocation and of impending death. From an etiological standpoint there was often no apparent external cause for such manifestations. The patient was anxious in spite of himself and without knowing why. It was only recently that the clinical state "anxiety" had been separated from the general group of emotions. The exciting causes were sometimes physical and sometimes psychical. The following somatic disturbances were found to accompany such "anxiety"—viz., anæsthesias and paræsthesias of the organs of sense, retraction and "feelings of cold" of the skin, horripilation, vertigo, a tendency to muscular tremor, and loss of coördination of fine movements. Præcordial distress and oppression were also felt in varying degrees, from slight distress to severe and death-like agony. Coldness of the extremities, pallor of the face, and cold sweats were generally present. These were mainly symptoms of vaso-motor and cardiac disturbance. Respiration was also modified, inspiration being jerky (*saccadée*) and accompanied with sighs. Gastro-intestinal disturbance was present and diarrhœa was one of the symptoms.

Polyuria was present as a rule. The salivary and gastric secretions were usually deficient and digestion was retarded. Among the psychical disturbances were vague fears and mental obsessions, slight confusion of thought, and some defect of the power of attention and of recollection. There was, said Dr. Lalanne, an intermediate condition between simple anxiety with depression and the "anxious melancholia" of the alienist. This transition was furnished by "melancholia with præcordial anguish" (Krafft Ebing). Attacks of præcordial pain and distress of paroxysmal character marked the last named and were especially liable to occur in the morning. In the classical forms of established and chronic anxious melancholia the following stages could usually be traced—viz., first a stage of simple melancholic depression; secondly, a period of doubt and mental perplexity in which the patient showed a tendency to brooding and seclusion; thirdly, a delusional stage in which were developed delusions of ruin, damnation, "possession" by malign agencies, and the like; and, lastly, a stage of chronicity in which the above forms of delusions were succeeded by a transformation of the ego or sense of personal identity. In this last stage a phase of megalomania of a special kind, described by Cotard as "délire d'énormité," was often observed. In persons with a hereditary tendency to insanity the occurrence of states of anxiety should give cause for serious thought. Such states might be the prelude to an attack of mania, melancholia, or circular insanity, or they might herald an outbreak of dangerous frenzy with suicidal or destructive and murderous impulses. Such results were seen in both sexes and more frequently in the female sex, the affection occurring most often between the ages of 20 and 30 years. In children the malady showed itself in the form of morbid fears; in adolescents and young adults it led to attacks and dangerous impulses of the form above mentioned; and in the middle-aged and elderly it developed into persistent and refractory melancholia. As regards treatment, Dr. Lalanne advocates systematic hydrotherapy to overcome the circulatory and physical weakness, gymnastics or muscular exercise in moderation, rest in bed during the stages of mental confusion and acute melancholy, the administration of morphia, codeine, bromides, and chloral to secure sleep, and the use of nitro-glycerine and amyl nitrite to relieve attacks of præcordial spasm and anguish. Cold baths were, he considered, bad, as they tended to increase vaso-constriction and cardiac distress and therefore preference should be given to tepid baths.

THE PREVALENCE OF SMALL-POX

ON Wednesday, Dec. 3rd, there was 1 fresh case of small-pox admitted to the hospitals of the Metropolitan Asylums Board. The Local Government Board for Scotland intimates that during the period from Nov. 16th to 30th 8 cases of small-pox have been notified to them—viz., 1 case in the Ayr district, 1 case in the Dundee district, 1 case in the Burgh of Arbroath, and 5 cases in the Burgh of Dundee.

THE council of the Clinical Society of London desires to make it known that a considerable number of copies of volumes of the Transactions of the society have accumulated in past years and that it proposes to distribute them to such members of the profession as may wish to have them, in order of application and free of all cost except that of packing and carriage. Applications for volumes will be received until Jan. 1st, 1903. They should be addressed to the Secretary of the Clinical Society, 20, Hanover-square, London, W. The volumes required should be specified.

Mr. H. T. Butlin, through pressure of private engagements, has been reluctantly compelled to resign his appointment as surgeon to St. Bartholomew's Hospital. Immediately upon his resignation he was elected consulting surgeon to the hospital and also a governor, while the school committee recommended to the governors that he should be asked to deliver a course of lectures on clinical surgery. We are glad to learn that Mr. Butlin's teaching connexion with St. Bartholomew's Hospital is not completely severed by his withdrawal from the active surgical staff.

ON St. Andrew's Eve (Nov. 29th) the Commendatore Dr. Lapponi, body-physician to Leo XIII., made his first appearance at the Vatican after the serious operation which he recently underwent at the hands of his colleague, Dr. Guido Mazzoni, surgeon to His Holiness. Fully re-established in health Dr. Lapponi thanked the Pope for his affectionate solicitude in his behalf and received, in reply, the cordial congratulations of His Holiness on his resumption of the duties he so ably discharges as "Archiatro Pontificio."

HIS MAJESTY THE KING, patron of the Middlesex Hospital, has been graciously pleased to send the sum of £100 as an annual subscription to the hospital. The subscription is in continuance of the contribution which has been made by reigning sovereigns during the past 100 years. His Majesty has also sent ten brace of pheasants for the benefit of the patients.

THE council of King's College has made the following appointments at King's College Hospital in consequence of the resignation of the chair of clinical surgery by Mr. W. Rose:—Mr. W. Watson Cheyne, C.B., F.R.S., to be professor of clinical surgery; Mr. A. Carless to be professor of surgery; and Mr. F. F. Burghard to be teacher of operative surgery.

Dr. A. E. Wright is resigning his appointment as professor of pathology at the Army Medical School and has accepted the post of pathologist and bacteriologist to St. Mary's Hospital.

Sir Michael Foster is understood to be about to resign his seat as member of Parliament for the University of London.

REPORT ON AN OUTBREAK OF TYPHOID FEVER AND OTHER ILLNESS DUE TO OYSTERS.

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ASSISTANT TO THE MEDICAL OFFICER OF HEALTH TO THE ESSEX COUNTY COUNCIL.

TOWARDS the end of the past summer numerous cases of typhoid fever occurred in the county of Essex which were attributed by the medical officers of health who investigated their origin to the eating of cockles or oysters. A number of these cases have recently been reported upon by Dr. J. T. C. Nash, the medical officer of health of the borough of Southend. Apart from the cases at Southend no connected series of cases were heard of until Sept. 29th, when attention was arrested by an alarming newspaper report of an outbreak of typhoid fever or other illness alleged to have occurred at Mistley and Bradfield, parishes on the extreme northern boundary of the county. Dr. J. W. Cook, the medical officer of health of the rural district in which these parishes are situated, had previously reported upon several cases of typhoid fever which had occurred in various parts of the district and which were apparently due to eating oysters derived from what is known as the St. Osyth

Channel, an offshoot of the Colne estuary below Brightlingsea. By arrangement with Dr. Cook, we together inspected this channel and made inquiries with reference to the oysters laid therein. We then learnt that besides the cases of typhoid fever there had been many cases of illness amongst people at Mistley and in the neighbourhood who had purchased oysters from J. F., the owner of certain layings in this channel. No information was obtained leading us to suspect that oysters from any of the other layings had caused illness amongst those consuming them. On the south side of this channel there are 15 layings belonging to five different owners in Brightlingsea and nine layings on the north side belonging to seven owners. Although a large number of these oysters are consumed in Brightlingsea there had only been one case of typhoid fever in the town (in August) and this was not in any way attributable to the eating of oysters. Altogether, from these and other layings in Brightlingsea 5,100,000 oysters had been sold during the previous three months.

J. F.'s layings are on the south side of the channel which here is of considerable width, and apparently the only sewage which directly enters the channel is from a few houses at St. Osyth, one and a half miles away. He lays down both American and Portuguese oysters, but the latter only are implicated in the outbreak to which this report refers. These oysters had been laid down for over a year before being dredged up for sale. J. F. after dredging up the oysters places them in baskets and then sets sail for various places on the coast where he sells them to the consumers or small dealers. The whole of the implicated oysters were sold on August 14th and 21st, on which days he was at Mistley. On each occasion he sold about 1000 oysters to 50 different persons. On the first visit all the oysters sold were Portuguese and on the second visit 350 were American. Of these 200 were sold to one person and the remainder to three others. There is no complaint about these oysters. After leaving Mistley quay he visited other places until his stock was sold out, but, strange to say, we can obtain no history of any illness due to eating these oysters elsewhere, save one case of diarrhœa at Ipswich. The total number of oysters sold by the man on the two voyages was 3000.

Upon making inquiries at Mistley we found J. F.'s statements confirmed. He had been there on August 14th and again on the 21st, his smack on each occasion lying at the quay. To the consumption of the Portuguese oysters sold on these days we have traced four cases of typhoid fever and 21 cases of illness. Doubtless others may have occurred which have not come to our knowledge.

The following is the history of the cases of illness which occurred after the consumption of the oysters sold on August 14th.

Family No. 1.—S. W., a boy, aged 16 years, living at Bradfield, near Manningtree, purchased on August 14th seven dozen oysters from J. F. at the quay and immediately ate one dozen of them. On the same evening he ate seven or eight more. On the 16th he was attacked with diarrhœa which lasted for three days, and from this date to the 30th he complained of being tired and listless and of headache and loss of appetite. On the date just mentioned he was attacked with vomiting and was found to be suffering from typhoid fever.

J. S. W., aged 50 years, father of S. W., ate 15 or 16 oysters on the evening of August 14th and four or five more next day. On the 16th he was seized with most violent diarrhœa and had some headache. The diarrhœa did not cease for four or five days and he did not fully recover until the end of the month.

J. W., wife of the above, aged 51 years, ate one dozen of the oysters on August 14th. On the 17th and 18th she suffered from "horrible spasms" and nausea but had no diarrhœa or further illness.

D. W., aged 18½ years, ate seven or eight oysters on August 15th and about the same number on the 16th. The oysters not eaten on the 14th had been kept in salt and water to which a little Quaker oats had been added. On August 21st she felt ill, complaining of headache and giddiness. There was no diarrhœa.

E. W., aged 81 years, ate four or five oysters on the evening of August 14th and four or five on the morning of the 15th. She was taken ill on the 18th with violent diarrhœa and vomiting and this condition lasted for a week.

There were four other members of this family who did not partake of the oysters and their health had not suffered in any way during the above period. None of the members of this family complained of any peculiarity in the oysters.

Family No. 2 were visitors who had taken a cottage at Bradfield for a holiday. Mr. W. bought 50 oysters from the smack at Mistley on August 14th and on the same day he ate one dozen of them. He was not taken ill until the 24th, when he complained of headache. On Sept. 1st he was attacked with vomiting and on the 3rd he was found to be suffering from typhoid fever. He had no diarrhœa during the incubation period. At this time he had returned home.

F. W., son of the above, ate two dozen of the oysters on August 14th and on Sept. 5th he was found to be suffering from typhoid fever. He had been ailing a few days previously.

An adult daughter ate three oysters on August 14th and was seized with violent vomiting on the same night. Recovery was rapid.

Mrs. W. ate one dozen oysters on August 14th and was not ill until Sept. 10th. On the 14th she was found to be suffering from typhoid fever. As she was nursing her husband and son she may possibly have contracted the disease from them.

A child, aged three years, had no oysters and remained well. There was no complaint about the quality of the oysters, but Mr. W. says there was some kind of meal on the shells as though the oysters had been kept in meal and water. This the seller indignantly denies.

Family No. 3.—H. B., a male, aged 33 years, bought four dozen oysters from the smack on August 14th and during the evening ate four or five of them. He was taken ill on the 16th, as he thought with a "bilious" attack. On the 17th diarrhœa set in and he felt so weak and ill that he remained in bed for 11 days.

B. B., his brother, aged 29 years, ate five oysters on August 14th and was taken ill the same night about 11 P.M. He suffered from sickness and diarrhœa which did not entirely cease until the first week in September.

A lady visitor in the house had one oyster. She is said to have been ailing a few days after but no particulars could be obtained.

One of the oysters is said to have had a "funny" taste but all seemed good.

The following cases implicate also the oysters sold on August 21st.

Family No. 4.—T. H., a male, aged 24 years, ate four dozen oysters on two occasions, the first on August 14th and the second on the 21st. After the second lot he felt "queer" for a week and suffered from diarrhœa. 14 days later—seven days after partaking of the second lot—he suffered much from headache and felt so ill that he went to bed and remained there for seven or eight weeks. He says that the oysters had a too yellow colour and a "bad" taste.

His brother, aged 23 years, had some of the second lot of oysters. They are said to have made him sick. No illness followed.

A third inmate of the family who did not touch the oysters remained well.

Family No. 5.—W. R. M., a lad, aged 18 years, often had oysters. He had some on August 14th and on the 21st he bought 25 oysters at the smack and ate them there and after dinner he returned and had 25 more. On Sept. 1st he was found to be suffering from enteric fever and he died on the 17th. He appears to have been attacked with diarrhœa and abdominal pains on or about August 18th and was ailing when he partook of the second lot of oysters.

The mother of this boy, aged 39 years, ate one oyster only on August 21st and next day had an attack of diarrhœa which lasted for 36 hours.

A brother, aged 11 years, had three oysters on August 21st and was attacked with diarrhœa next day. He felt ill for a week.

Another brother, aged 13 years, had two oysters on August 21st and was attacked with diarrhœa the same night. He was ill for two days.

Three other members of this family did not touch the oysters and remained in good health. No complaint was made about the quality of the oysters.

Family No. 6.—G. A., a male, aged 50 years, ate 18 oysters on the day of purchase, August 14th or 21st. He was attacked with abdominal pain during the night and had diarrhœa on the following day. He threw some oysters away as he did not like the taste.

His wife put one oyster in her mouth but not liking the taste did not swallow it, and his son had one (or two?) of the oysters but did not experience any ill effects.

In a few instances only did the sickness and diarrhœa

supervene within a few hours of partaking of the oysters, as in ptomaine poisoning. In most cases the illness commenced from 24 to 48 hours afterwards, suggestive of infection by the bacillus enteritidis of Gaertner, and those who suffered later from typhoid fever were probably infected both by this bacillus and the bacillus typhosus. The outbreak is curious in several respects: firstly, since only a small portion of the oysters appears to have been capable of causing illness; secondly, since the nature of the illness varied from a mere feeling of nausea and weakness to a fatal attack of typhoid fever; and thirdly, since practically the whole of the cases occurred amongst those who purchased the oysters from the smack whilst at Mistley. Only one possible explanation suggests itself to me, and that is that the river water, which is greatly polluted here, may have been taken into the boat and infected the oysters lying at the bottom. This opinion is confirmed by the fact vouched for by one of the patients, who says that he bought the last of a lot lying at the bottom of the boat and got them a little cheaper because he took the lot. It would be extraordinary, however, if this peculiar condition should obtain on the two successive visits. The owner of the boat is certain that no water from the river was thrown over the oysters. The fishermen at Brightlingsea all give the opinion that some of the oysters could not have been fresh and attribute the illness to eating stale oysters. This, however, cannot explain all the facts.

These cases of illness also occurred during the season when the "native" oyster is "sick" and unfit for consumption. The native oyster (*Ostrea edulis*) is hermaphrodite and spats from May to September, whilst the Portuguese oyster (*Ostrea angulata*) is unisexual. The Brightlingsea merchants sell the foreign oysters all the year round and say that the Portuguese variety never shows the signs of "sickness" observed in the native oyster during the close season, which in this country extends from May 14th to August 4th. The Portuguese oysters which caused the above recorded cases of sickness had been laid in the St. Osyth Channel for over a year, but apparently laying for this length of time does not bring the oyster within the scope of the Fisheries (Oyster, Crab, and Lobster) Act, 1877. Even the assumption that a "sick" or "spawning" oyster is unwholesome does not explain why only a certain few sold at a certain time and in a certain place caused illness varying from mere nausea to well-marked typhoid fever. At present, therefore, the cause of the unwholesomeness of the oysters remains undiscovered.

We obtained a number of oysters from the implicated beds and submitted them to one of the patients who had suffered from typhoid fever. He examined them when opened and said that he could see no difference between them and those which he had eaten in August. From the liquid inside the shells of these oysters we isolated in one case a motile bacillus capable of growing in phenolated broth, of curdling milk, and producing indol, but which did not give gas bubbles in glucose gelatin, and from another oyster the typical bacillus coli communis. The spores of the bacillus enteritidis sporogenes could not be found in the shell liquid in either oyster. In the juice from the gastric gland the bacillus coli communis could not be demonstrated in either case, but in both the spores of the bacillus enteritidis sporogenes, or of an organism which we could not differentiate therefrom, were easily discovered. The bacillus typhosus was not found.

In cockles taken from sewage-polluted water we have invariably found both the bacillus coli communis and bacillus enteritidis sporogenes in the shell liquid and in the pulp of the animal. Whether the presence of either or both of these organisms in the Portuguese oysters indicates sewage pollution or not it is at present impossible to say. The bacterial contents of the shells and organs of various shell-fish is a subject which requires investigation.

For comparative purposes we obtained some native oysters from probably the most celebrated fattening grounds in this country and our examination yielded the following results:—

Oyster No. 1.—(*a*) Liquid from the inside of the shell gave a negative result as regards the bacillus coli communis and the bacillus enteritidis sporogenes. (*b*) Juice from the gastric gland gave all the indications of bacillus enteritidis sporogenes. A motile bacillus grew in phenolated broth which curdled milk and produced indol in abundance, yet did not give gas bubbles in glucose gelatin.

Oyster No. 2.—(*a*) From the juice inside the shell the same motile bacillus which was found in No. 1 (*b*) was obtained but no bacillus enteritidis sporogenes. (*b*) In juice from the gastric gland the same motile bacillus was present which was found in the liquid inside the shell. The culture gave every indication of the presence of bacillus enteritidis sporogenes. A few of these oysters were placed in sea water to which a bouillon growth of the bacillus typhosus had been added. On the second day the oysters were taken out and placed in fresh pure sea water. An oyster was removed on the first, third, fifth, and seventh days and the juice taken from the gastric gland examined. Up to the seventh day the specific bacillus could be recovered and identified, but not afterwards.

Our investigations on these lines are being carried further, but the results point to the necessity of being careful about drawing conclusions as to sewage pollution of shell-fish from the presence of organisms belonging to the coli group or the bacillus enteritidis sporogenes.

THE IRISH CENSUS.

THE Registrar-General of Ireland has favoured us with a copy of Part II. of the General Report of the Irish Census which has recently been presented to both Houses of Parliament. The present issue is in continuation of previous volumes for the several provinces of Ireland; it is signed by three commissioners, Mr. Robert E. Matheson (Registrar-General), Mr. T. Bellingham Brady, and Mr. Robert J. Brew, and completes the series of Irish census publications for 1901. The volume before us consists of 640 folio pages and contains a vast amount of interesting matter concerning the population of the country, with especial reference to the housing, age distribution, and so-called "civil condition" of the people, as well as to their occupations, religious profession, and educational condition. This portion of the report is replete with detail and will afford material for profitable study to those who are more particularly interested in the welfare and progress of the Emerald Isle.

There is, however, one section of the report which deals with the local distribution of sickness and infirmity and which therefore appears to possess the chief interest for our profession; this section is peculiar to the Irish reports, no provision for the collection of similar information existing in any of the Census Acts for Great Britain. The importance which the commissioners attach to this part of their subject may be gathered from the fact that they have devoted to its consideration as many as 18 pages of closely printed letterpress and 31 full-page tables. We shall in what follows confine our attention to this part of the report.

Before entering into detail we must point out to our readers that the facts of sickness and of infirmity which have been so minutely analysed in the remarks and in the tables before us are derived from the reports of the enumerators exclusively; they represent the statements or opinions of laymen who are for the most part members of the Royal Irish Constabulary and are in no sense authorised by medical testimony; nevertheless, the returns are exceedingly interesting and are clearly deserving of consideration. In the tables numbered 98 to 129 certain details are given respecting the sick and disabled in Ireland on the night of March 31st, 1901. These tables deal with two great classes of the people—namely (*a*) those suffering from ordinary forms of illness—the "temporarily" sick, and (*b*) those suffering from usually incurable maladies—the "permanently" disabled. The classification of diseases employed is that which was designed for general purposes of vital statistics by the late Dr. Farr and which up to the close of the nineteenth century has been universally adhered to in Ireland as well as in other divisions of the United Kingdom.

On the night of the census the total number of sick and infirm in Ireland is stated to have been nearly 70,000, giving a proportion of 1 to 65 of the population. Of this aggregate about 36,000 were "temporarily" sick and the remainder were "permanently" diseased. Of the former class, 15,000 were living at home, 5000 were in infirmaries or special hospitals, and the remainder were in workhouse hospitals. Special inquiry was made as to whether sick persons at their own homes were or were not able to follow their usual occupations. The sick in hospitals and other institutions were of course assumed to be unable to follow any occupation and less than 200 of those sick at home were able to

maintain themselves; but the reporters express the opinion that many persons suffering from less serious complaints were not returned at all in the sick list, so that the proportion of the population actually out of health is probably under-stated.

According to the returns, the proportion of the Irish population classed as "temporarily" diseased was 8·0 per 1000, or 0·4 per 1000 more than at the previous census. In the province of Leinster the proportion was 10·1; in Munster, 9·1; in Ulster, 6·5; and in Connaught, 5·9 per 1000. In the county borough of Dublin the rate was as high as 16·5 per 1000, but this is at any rate partly attributed to the hospital accommodation in that city, for of 4757 persons in Dublin who were returned as temporarily diseased on census night as many as 1714 were in hospital. In 1901 there was only one person returned as suffering from small-pox on census night and of those suffering from measles, scarlet fever, and whooping-cough the numbers were only 123, 257, and 258 respectively. But what strikes us as peculiar is that in a country which has been stated to be "the home of typhus" only 68 cases of that disease were reported on census night; it is true that there were in addition 302 cases returned as enteric fever and 53 of simple continued fever and some of these might conceivably have been actually cases of typhus fever. The really serious point in connexion with this disease consists in the fact that only 23 of the known 68 cases of this eminently infectious pestilence were under treatment in public institutions. Under the conditions of poverty and overcrowding which normally exist among the poor in Ireland it is obvious that the disease may readily become widely epidemic at any time, unless, indeed, large numbers of the population are immune to infection by reason of their having sustained an attack of this disease earlier in life.

Influenza seems to have been exceedingly prevalent in the early part of 1901, not fewer than 2900 cases having been reported. The disease seems to have been distributed almost equally over every province of the country. Only 33 cases of diphtheria were returned, one-third of these having occurred in the city of Dublin; for some unexplained reason isolation seems to be more commonly resorted to in the case of this disease than even in that of typhus fever, 20 out of the 33 cases having occurred in hospitals. Phthisis or pulmonary tuberculosis was reported in 1967 cases on the census night as compared with 2030 at the taking of the previous census. More than half of the reported cases were being attended at their own homes; of the remainder 282 were in hospitals and 644 in workhouses. According to the returns there were 439 cases of cancer in Ireland on the census night, rather more than half of which were being attended at their own homes; of the remainder 91 were reported in hospitals and 120 in workhouses.

From what we have stated it will appear that about three-fourths of the 15,633 sick who were accommodated in public institutions were found in workhouse hospitals; this, however, must not be taken to mean that the whole of these are to be classed as sick paupers, the fact being that in remote country districts of Ireland, where there are practically no voluntary hospitals, the sick among the poorer classes make use of the union hospitals in the same manner as similar classes in England use the hospitals supported by voluntary contributions. In estimating the accommodation for the sick poor in Ireland this circumstance should be borne in mind.

Among the class of persons stated to be "permanently" diseased we note that at the recent census as many as 5470 persons were returned as "blind," but after careful inquiry it was found that 1217 of these were only partially deprived of sight. The number of totally blind persons, therefore, was 4253, or 1 in every 1048 of the population. This shows an improvement on the returns of 1891, when the proportion of totally blind was as high as 1 in 881. Complete absence of vision appears to have dated from birth in only 184 instances, the remaining 4069 blind persons having become so later in life. Ophthalmia, which was at one time one of the great pests of Ireland, does not now seem to be the cause of an excessive proportion of the blindness existing in that country. In the year 1871 the number of cases of blindness attributed to ophthalmia was 1642, in 1881 it was 523, in 1891 it was 378, whilst at the recent census it was 194, or 1 in 22,963 of the population. Small-pox is the assigned cause of 128 cases of blindness in 1901, and a few cases of this calamity are attributed in the report to the effects of certain other infectious complaints. Disease of the brain is the stated cause of 221 cases cataract of 409 cases, and various forms of injury of 536 cases. But the cause of blindness in 2445 cases is stated to be unknown; we can scarcely be surprised at this, especially when the nature and origin of the return are taken into account. Most of these cases of blindness are assigned by the people themselves either to the "will of Providence" or are stated to have "come on gradually," the true cause in these cases never having been medically ascertained. As regards dumbness and deafness very minute classification of the afflicted persons has been carried out in the report; without going into detail we note with satisfaction that these particular infirmities have been steadily on the decrease ever since 1871. At the recent census the number of "lunatics" enumerated in Ireland was 19,834, of whom 596 were "at large," 16,587 were in asylums, and 2651 were in workhouses; the number of "idiots" was 5216, of whom 3272 were at large, 763 were in asylums, and 1181 were in workhouses. For further details concerning the sick and infirm we must refer our readers to the census report; we much regret that limitations of space preclude our following this interesting subject further.

AN INTERESTING TRIAL CONCERNING POISONING BY A MIXTURE OF COAL AND WATER GAS.

An action for damages brought by Mr. Waters and his wife against the Brighton Gas Company was recently heard before Mr. Justice Lawrance and a special jury in the King's Bench Division. It was an action for over £2000 damages which the plaintiffs alleged they had suffered through the neglect of the gas company which, when fixing a gas stove in the plaintiffs' bedroom, connected up some disused pipes and left an escape of gas from an unobserved and imperfectly capped old bracket point. The case was of peculiar interest to the medical profession in that it involved a sharp conflict between a number of medical men and raised points of much difficulty for the consideration of the court. To put the matter shortly the plaintiffs' case was this. A leak of four and a half cubic feet of gas containing 30 per cent. of water gas, and therefore 13 per cent. of carbon monoxide, was left in a bedroom of average size—2000 cubic feet—for some 16 hours. The smell was not noticed when the plaintiff and his wife went to bed at 11 P.M., although the leakage had been taking place for several hours. The explanation of this somewhat peculiar feature in the case was that, as the paint on the new stove gave off an unpleasant smell, the windows and door of the bedroom were kept open until a few minutes before the plaintiffs retired to bed. The stove was then extinguished, the windows and door were closed, and the plaintiffs went to sleep. At 6.20 A.M. (on Dec. 24th of last year) the female plaintiff awoke; she found the room full of gas and had a splitting headache. On turning on the electric light she found her husband lying, apparently unconscious, on the bed by her side; she shook him and spoke to him, but he seemed to slip or to fall from the bed on to the floor, where he recovered consciousness. Mr. Waters now rose and managed to get to the washstand where he stood retching for some time; the windows and doors were opened and after a time he got into bed again. At 8 A.M. he arose, dressed, and went downstairs with the assistance of his wife, and although unable to eat any breakfast he managed, about 9 A.M., to go out and to walk unassisted to the gas company's office—a distance of some 500 yards. He lodged an angry complaint there and then walked back home; on arriving back he did not send for a medical man, expecting soon to be all right again. He continued occasionally retching for the next four days, and on the 28th, owing to the fact that he coughed up some bright blood, a medical man, Mr. G. Morgan of Brighton, was summoned. Mr. Morgan found the plaintiff ill, with a temperature of 101·8° F., a pulse of 100, and cough, expectoration, and hæmoptysis. There were some dulness in the mid-scapular region behind on the right side and harsh breathing, with evident congestion at this spot. Mr. Morgan described the blood as being "cherry-red," attributing this peculiarity to the cherry-red carboxy-hæmoglobin which is formed in the blood when carbon monoxide is inhaled. The plaintiff wrote to the gas company claiming compensation and there for the time the matter ended.

By Jan. 8th the patient was well enough to go to London, all hæmoptysis had ceased, and, with the exception of a cough and some weakness, he was practically recovered. In March, however, Mr. Morgan, on re-examining the right lung, found dulness and harsh breath sounds in the upper part behind and he informed the plaintiff that his lung was permanently damaged. An examination was then made by the company's medical officer who found anæmia but no definite mischief in the lung. Mr. C. M. Perry of Tunbridge Wells then made an examination and found consolidation at the right apex. Dr. I. Burney Yeo was called in in consultation and found harsh breath sounds in the upper third behind; he expressed the opinion that it was quite possible that there were some remains of the original toxic irritation.

An action for permanent injury to the lung was commenced in the King's Bench Division and the plaintiff went to Canada and America for the benefit of a sea voyage and change of air. In July the examinations recommenced and showed the same confusing contradictions. Mr. Morgan found things *in statu quo*, whilst Mr. Perry agreed and Dr. Burney Yeo found harsh breathing and some loss of resilience in the upper third of the right lung. Sir Hugh R. Beevor was now called in by the defendant company to examine the plaintiff and to make a report. As a result of a careful investigation Sir Hugh Beevor found that the lungs were both sound. There were, he admitted, some

slight dulness on the right side and a trifling variation in the breath sounds, but as this condition of things is commonly enough found on the right side, on account of the over-development of the muscles on that side, he treated it as negligible and based his diagnosis on the fact that there was undoubted three-inch expansion of the chest, equal on both sides. The usual procrastinations of legal process resulted in a postponement of the trial till November, 1902. At this stage all the medical men were finally agreed that the right apex *was* damaged. There were impaired movement, dulness, increased fremitus, loud breathing, and an occasional click.

Now commenced the legal tug-of-war. For the plaintiffs it was contended that the condition was one supervening on a pneumonia contracted in December as a direct result of exposure to coal-gas inhalation. In support of this contention counsel quoted the "cherry-coloured" blood seen by Mr. Morgan four days after inhalation and they asserted that this peculiar colour was due to the carbon monoxide and to that only. They referred to the fact that despite several examinations of the sputum no tubercle bacillus had yet been found, and, finally, they referred to the Blue-book on Water Gas, in which Dr. J. S. Haldane states that amongst the after-effects of gas inhalation pneumonia is found.

To this the defendants replied that Dr. Haldane had proved by experiments on himself that after severe poisoning by coal gas and subsequent removal into fresh air, all the carbon monoxide was entirely eliminated in six hours. In face of this fact it was absurd for the plaintiff's counsel to contend that the plaintiff's blood was "cherry-coloured" four days after inhalation, and in the absence of cherry-coloured blood how could the pneumonia of Dec. 28th be definitely connected with exposure to gas on the 24th? It was true that gas poisoning was sometimes followed by pneumonia but these cases were very rare and of very great severity; they were cases where the poisoning just stopped short of death and the unconsciousness induced by the gas merged into severe pneumonia. But in the present case the poisoning was of so mild a nature that not only was the alleged unconsciousness open to serious question, but the patient actually walked over half a mile within three hours of his discovery. Such a fact was inconsistent with serious gas poisoning, and as for the hæmoptysis, such a sign was unknown as an indication of gas inhalation. The symptoms pointed much more directly to influenzal pneumonia or to the hæmoptysis and catarrh of phthisis. True, there was no tubercle bacillus in the sputum but such negative evidence was of no value in excluding tuberculous disease from the diagnosis.

Dr. Heron was called to speak as to the condition of the patient in November, and he gave it as his opinion that the signs pointed more clearly to phthisis than to anything else. He further said that he could not associate the present state of things in any way with an exposure to gas 11 months previously; and, further, he thought that a dormant tuberculous condition of the lung might not have been discoverable in July (that is, five months before his examination). He insisted that the one-sidedness of the affection of the chest indicated a tuberculous attack and he would have expected any irritation caused by gas inhalation to have been bilateral.

The defence produced evidence from the Water Gas Blue-book, based on Dr. Haldane's actual experiments, which showed that four and a half cubic feet of gas, containing 13 per cent. of CO, might escape into a 2000 cubic feet room for eight hours or more without producing a dangerous atmosphere—viz., one containing more than 0·05 per cent. of CO. They showed that on a cold night, such as the one in question, convection currents would be freely set up at the cooled windows, and an exchange of air would take place very rapidly, so that once an hour, if not more often, the air of the room would be completely changed.

Professor Vivian Lewes of the Royal Naval College, Greenwich, gave this evidence and attributed the plaintiff's illness to an accumulation of the products of incomplete combustion in the cold chimney. Such fumes were highly poisonous and were formed when a stove had not a sufficient supply of gas (as was the case in this instance); the flames got over-cooled and noxious gases were formed. Professor Lewes said that such gases would lodge in the chimney and that when the stove was turned out they would cool and slowly descend into the room. As to the escape of gas he said that he would not mind sleeping himself in such a room with four and a half cubic feet of gas an hour escaping into it.

Further medical evidence was called to corroborate the evidence that hæmoptysis was not a sign of gas poisoning and to show that no man who had been "gassed" to unconsciousness could possibly walk half a mile within three hours of his discovery in the poisonous atmosphere.

The learned judge summed up strongly in the plaintiffs' favour, ignored the technical side of the case, commented severely on the medical conflict, and directed the attention of the jury to the fact that the plaintiffs had been poisoned and were therefore entitled to damages.

The jury found for the plaintiffs with £520 damages. The plaintiffs sought in their statement of claim to recover £2200

In giving judgment his lordship refused to grant special costs to the plaintiffs to cover the expenses of their medical evidence, saying, "I will not give you anything for the medical witnesses."

The counsel for the plaintiffs were Mr. Marshall Hall, K.C., M.P., Mr. Gerald Hohler, and Mr. Pitman. For the defence they were Mr. Reginald M. Bray, K.C., Mr. Boxall, K.C., Mr. Boydell Houghton, and Mr. S. Ingleby Oddie.

TAKING THE OATH.—In a recent case at the Bristol Police-court the medical officer of health (Dr. D. S Davies) took the oath with uplifted hand instead of kissing the Testament. His Honour Judge Austin remarked that he wished more people would be sworn that way.

VACCINATION RETURNS.—During the 12 months ended Sept. 29th last 3069 successful primary vaccinations and 747 successful revaccinations were performed by the public vaccinators of the Bristol union. For the preceding year the figures were 2484 and 27 respectively.

Looking Back.

FROM

THE LANCET, *SATURDAY, DEC. 4*, 1824.

FOREIGN DEPARTMENT.

ARCHIVES GENERALES.—OCT. 1824.

Recent observations on the PLICA *of different countries.* By J. J. VIREY, M.D. (Read at the Royal Academy of Medicine, Sept. 7th, 1824.)

Every one knows that the *plica*, or that entangling and excessive elongation of the hair of the head, or of the hair on other parts of the body, was for a long time considered as a peculiar disease, and was attributed to a specific virus, which was called *trichomatique*. This opinion, supported by STABEL, FIDER, RICHTER, &c., has been also professed by certain modern physicians, as by LAFONTAINE, ALIBERT, KUSTER, FRANK, and WOOLFRAMM. Many others again have placed this disease amongst the most destructive to the human race after syphilis. It has appeared to others to be contagious and epidemic. It appears, however, to have been first brought into Poland by the Mongol Tartars, about the close of the thirteenth century. It has been only a few years since that the opinion has been renewed, before suggested by DAVIDSON in the seventeenth century, that plica was only the result of improper treatment and negligence.

The *Times* of Dec. 2nd, 1902, contains the following excerpt from its issue of Thursday, Dec. 2nd, 1802:—

"The Danish Physicians having by the result of their experiments, given the King the most irrefragable proofs of the benefits of the Vaccine Inoculation, his Majesty, to encourage this practice, caused his daughter, Princess SOPHIA WILHELMINA, to be inoculated with Vaccine matter a few days ago; all promises well at present."

ASYLUM REPORTS.

London County Asylum, Cane-hill (Report for the year ended March 31st, 1903).—The average number of patients resident during the year was 2180, comprising 934 males and 1246 females. The admissions during the year amounted to 374, comprising 186 males and 188 females. Of these 329 were first admissions. Mr. James M. Moody, the medical superintendent, states in his report that the percentage of patients deemed curable on admission was low. Among the admissions 26 males and three females were suffering from general paralysis of the insane and 12 males and 17 females were the subjects of epilepsy. The number of patients discharged as recovered during the year amounted to 124—viz., 57 males and 67 females, or 5·7 per cent. of the average number resident. The deaths during the year amounted to 150, or 6·9 per cent. as calculated on the same basis. Of these deaths two each were due to carcinoma of the stomach and colitis, seven to bronchitis, nine to epilepsy, 10 to pneumonia and broncho-pneumonia, 10 to cardiac disease, 13 to senile decay, 20 to phthisis, 21 to organic disease of the brain, 36 to general paralysis of the insane, and the rest to other causes. Post-mortem examinations were made in 134 cases of death. The number of casualties during the year amounted to 14 and consisted of fractures of bones more or less severe in character. Eight of these were accidental and due to falls, five were sustained by patients striking each other, and one was due to a murderous assault upon one patient by another, in which the victim received a compound fracture of the skull from which, however, he made a remarkable recovery. There was not a single case of suicide during the year. The general health of the inmates has been good except for the prevalence of influenza in the spring and autumn. The Commissioners in Lunacy state in their report that all parts of the asylum continued to be maintained in excellent order, that the wards are bright, cheerful, and comfortable, and that the medical case-books and other records are well and intelligently kept. The sub-committee of management states with regret in its report that

a male patient committed a severe assault upon Mr. Moody, the medical superintendent. Proceedings were taken against him before the magistrates and he was after trial ordered to be detained in a criminal lunatic asylum during His Majesty's pleasure. In consequence of the prevalence of tuberculosis among the cows it was decided that the stock and all cows purchased in future should be subjected to the tuberculin test. The expenditure on repairs, alterations, and improvements during the year amounted to £6099.

London County Asylum, Claybury (Report for the year ended March 31st, 1902).—The average number of patients resident during the year was 2431, comprising 1015 males and 1416 females. The admissions during the year amounted to 426—viz., 131 males and 295 females. Of these 364 were first admissions. Dr. Robert Jones, the medical superintendent, states in his report that the general character of the admissions was unsatisfactory as regards prospect of recovery. 38 per cent. of the admissions were over 60 years of age and over 16 per cent. of the males were suffering from general paralysis. 14 per cent. of the males and 9 per cent. of the females were admitted suffering from alcoholic insanity, "although as a predisposing cause the percentage is probably higher." It is interesting to notice, adds Dr. Jones, that the two classes which furnished the greatest number of male admissions were described as "clerks" and "persons of no occupation." The number of patients discharged as recovered during the year amounted to 148, comprising 52 males and 96 females, or 6·1 per cent. of the average number resident. The deaths during the year amounted to 201, or 8·27 per cent. as calculated on the same basis. "Asylum dysentery attacked 40 males and 81 females, and was responsible for 21 deaths, or over 10 per cent. of the total deaths." Death was due to cancer of the stomach in six cases, renal disease in seven cases, epilepsy in eight cases, pneumonia in 14 cases, senile decay in 15 cases, colitis in 21 cases, cardiac disease in 24 cases, pulmonary and other forms of tuberculosis in 25 cases, general paralysis of the insane in 50 cases, and other causes in the rest. Two patients who were pregnant upon admission were safely delivered. There has been, with the exception of colitis, no outbreak of zymotic disease during the year. The Commissioners in Lunacy state in their report that the wards were in excellent order, that the day-rooms were comfortable and cheerful, that the dormitories were clean and well aired, and that the medical case-books and records were very well kept. The sub-committee of management states in its report that owing to the drought the crops and farm produce showed a considerable falling off during the year. The sum of £9320 was spent during the year upon improvements, alterations, and repairs.

Warneford Asylum, Oxford (Annual Report for 1901).—This asylum is intended for private patients of the middle and upper classes. The average number of patients resident during the year was 97, comprising 48 males and 49 females. The admissions during the year amounted to 13—viz., 9 males and 4 females. Of these 12 were first admissions. Dr. James Neil, the medical superintendent, states in his report that voluntary boarders are received at their own request and if the mental condition is not sufficiently unsound to permit of certification. Some of the admissions were transfers from other asylums. "There is no doubt," says Dr. Neil, "that a considerable number of chronic, incurable patients derive at least temporary benefit from new surroundings, and when they become discontented and fretful it is a good plan to give them a change of asylum." This plan has been followed in the case of patients with delusions of suspicion who got into the habit of complaining of various unreal grievances and the results have been, at least temporarily, satisfactory. The total number of deaths during the year amounted to five. Two of the deaths occurred in male patients about a week after admission. One of these was admitted in the last stage of general paralysis, and the other, a young man, aged 25 years, was suffering from acute delirious mania and sank from exhaustion. A patient who had "practically recovered and was absent on probation" committed a murder and then killed himself. "Those who are conversant with the care of the insane are well aware," adds Dr. Neil, "that the best forethought and the most careful precautions will sometimes prove ineffectual to prevent such tragedies. If patients are to be discharged at all a certain number of unexpected and sudden relapses must take place and these relapses must occasionally be attended by risk." The number of patients discharged as recovered during the year amounted to six, or 6·2 per cent. of the average residents. The Commissioners in Lunacy state in their report that the patients were neatly dressed and in satisfactory personal condition, that the rooms and dormitories were in very good order, and that the medical case-books and other records were well kept. The committee of management states in its report that the sum of £6729 has been received as payments for patients maintained during the year, being a considerable increase over the receipts of any previous year. A sum of £1799 19s has been received from endowments and other sources. The total disbursements amounted to £8327.

Glasgow District Asylum, Woodilee (Report for the year ended May 31st, 1902).—The average number of patients resident during the year was 854, comprising 445 males and 409 females. The admissions during the year amounted to 303—viz., 164 males and 139 females. Of these 239 were first admissions. Dr. Hamilton C. Marr, the medical superintendent, states in his report that 20 per cent. of the patients admitted "had previously been in this or some other asylum ..... which seems to bear on the face of it the implication that insanity is really rarely recovered from." This condition of recurrence, Dr. Marr points out, is due to the stress of life which a discharged patient has to undergo after he leaves the asylum on recovering from a first attack of insanity. Alcoholic excess was found to be the chief cause of insanity in patients admitted during the year, this cause being clearly traceable in more than 20 per cent. Dr Marr also shows that epilepsy, which existed in 6 per cent. of the admissions, could in several instances be traced to paternal intemperance. 12 per cent. of the admissions were senile patients and many of these were in a feeble or dying state. Inherited mental instability was ascertained in 14 per cent. of cases, while in 9 per cent. the cause of insanity was put down to immorality. In 11·5 per cent. of the admissions the causation could not be ascertained. The number of patients discharged as recovered during the year amounted to 116, or 13·3 per cent. of the average number resident. The deaths during the year amounted to 76, or 8·8 per cent. as calculated on the same basis. Of the deaths five were due to epilepsy, seven to cardiac disease, eight to senile decay, ten to pulmonary, and other forms of, tuberculosis, 16 to general paralysis of the insane, and the rest to other causes. The institution has been free from any outbreak of epidemic disease throughout the year. Electric lighting was inaugurated in October, 1901, and since then much convenience and comfort have been experienced with the new as compared with the old lighting arrangements. The Commissioners in Lunacy state in their report that the patients were quite orderly, that their physical condition was satisfactory, that the wards and dormitories were clean and in good order, and that the medical case-books and post-mortem records were kept in a manner highly creditable to the medical staff.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 7812 births and 5433 deaths were registered during the week ending Nov. 29th. The annual rate of mortality in these towns, which had been 17·3, 17·4, and 16·9 per 1000 in the three preceding weeks, rose again last week to 19·1 per 1000. In London the death-rate was 19·4 per 1000, while it averaged 18·9 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·7 in Ipswich, 8·5 in Bournemouth, 9·2 in Reading and in York, 9·5 in Croydon, 10·2 in Coventry, and 11·1 in Leyton; the highest rates were 23·4 in Wolverhampton, 23·6 in Rhondda, 24·2 in Oldham, 25·5 in Liverpool, 27·2 in Newport (Mon.), 29·1 in Tynemouth and 29·2 in Hanley. The 5433 deaths in these towns last week included 531 which were referred to the principal infectious diseases, against 558, 509, and 511 in the three preceding weeks; of these 531 deaths, 186 resulted from measles, 92 from diphtheria, 79 from diarrhœa, 68 from whooping-cough, 63 from scarlet fever, 42 from "fever" (principally enteric), and one from small-pox. No death from any of these diseases was registered last week in Brighton, Bournemouth, Northampton, Ipswich, Smethwick, Aston Manor, Leicester, Barrow-in-Furness, Rotherham, or York; while they caused the highest death-rates in Hastings, Hanley, Walsall, West Bromwich, Liverpool, Wigan, Salford, Tynemouth, and Rhondda. The greatest proportional mortality from measles

occurred in Walthamstow, Hastings, Hanley, West Bromwich, Wallasey, Liverpool, Salford, Hull, Newport (Mon.), and Cardiff; from scarlet fever in Burton-on-Trent, West Bromwich, Liverpool, St. Helens, and Oldham; from diphtheria in Hanley; from whooping-cough in Walsall, Tynemouth, and Cardiff; from "fever" in Nottingham; and from diarrhœa in Hanley, Wolverhampton, and Merthyr Tydfil. One fatal case of small-pox was registered in Liverpool, but not one in any other of the large towns. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 14, 11, and 14 at the end of the three preceding weeks, had further risen to 17 at the end of last week; four new cases were admitted during the week, against none, two, and six in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, on Saturday, Nov. 29th, was 2761, against 2900, 2839, and 2768 on the three preceding Saturdays; 362 new cases were admitted last week, against 346, 285, and 249 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 332, 347, and 331 in the three preceding weeks, further rose last week to 426, but were 11 below the corrected average number. The causes of 79, or 1·3 per cent., of the deaths in the 76 towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Bolton, Manchester, Salford, Cardiff, and in 37 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Blackburn, Barrow-in-Furness, Sheffield, Sunderland, Gateshead, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·1, 16·4, and 15·7, per 1000 in the three preceding weeks, rose again to 20·0 per 1000 during the week ending Nov. 29th, and was 0·9 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·5 in Perth and 13·9 in Leith, to 21·9 in Edinburgh and 23·1 in Paisley. The 646 deaths in these towns included 20 which resulted from diarrhœa, 15 from whooping-cough, seven from diphtheria, six from scarlet fever, five from measles, and five from "fever." In all, 58 deaths resulted from these principal infectious diseases last week, against 40 and 43 in the two preceding weeks. These 58 deaths were equal to an annual rate of 1·8 per 1000, being slightly below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 21, 22, and 20 in the three preceding weeks were again 20 last week, and included 11 in Glasgow, three in Edinburgh, two in Aberdeen, and two in Paisley. The deaths from whooping-cough, which had been 18, three, and nine in the three preceding weeks, further rose last week to 15, of which 10 occurred in Glasgow, two in Edinburgh, and two in Aberdeen. The fatal cases of diphtheria, which had been four and two in the two preceding weeks, rose again to seven last week, and included two in Aberdeen and two in Greenock. The deaths from scarlet fever, which had been four, two, and eight in the three preceding weeks, declined again last week to six, of which two were registered in Greenock. The fatal cases of measles, which had been three, four, and two in the three preceding weeks, increased again to five last week, and included two in Edinburgh and two in Aberdeen. The deaths from "fever," which had been five, five, and two in the three preceding weeks, rose again last week to five, of which two occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 150, 139, and 121 in the three preceding weeks, increased again to 135 last week, but were 51 below the number in the corresponding period of last year. The causes of 23, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·7 and 31·1 per 1000 in the two preceding weeks, declined again to 30·5 per 1000 during the week ending Nov. 29th. During the past four weeks the death-rate has averaged 29·7 per 1000, the rates during the same period being 17·9 in London and 17·0 in Edinburgh. The 222 deaths of persons belonging to Dublin registered during the week under notice showed a decline of four from the number in the preceding week, and included 35 which were referred to the principal infectious diseases, against 23 and 33 in the two preceding weeks; of these, 14 resulted from measles, seven from scarlet fever, seven from diarrhœa, four from diphtheria, and three from "fever," but not one from either small-pox or whooping-cough. These 35 deaths were equal to an annual rate of 4·8 per 1000, the death-rates last week from the same diseases being 1·4 in London and 1·6 in Edinburgh. The fatal cases of measles, which had been 16, 10, and 18 in the three preceding weeks, declined again last week to 14. The deaths from scarlet fever, which had been four, two, and three in the three preceding weeks, further increased to seven last week. The fatal cases of diarrhœa, which had been two, three, and seven in the three preceding weeks, were again seven last week. The four deaths from diphtheria corresponded with the number in the preceding week. The 222 deaths in Dublin last week included 49 of children under one year of age and 44 of persons aged upwards of 60 years; the deaths of infants showed a marked decline, while those of elderly persons slightly exceeded the number in the preceding week. One death from violence and three inquest cases were registered; and 80, or more than a third, of the deaths occurred in public institutions. The causes of 13, or nearly 6 per cent., of the deaths registered in Dublin were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon J. S. Lambert to the *President*, to be lent to Deptford Victualling Yard. Surgeons: R. Hughes to the *Ganges*; J. H. Fergusson to the *Hyacinth*; C. C. Macmillan to the *Defiance*; A. J. Sheldon to the *Cæsar*; and A. T. Gailleton to the *Anson*.

Civil Practitioner A. A. Rogers to be Surgeon and Agent at Southampton.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Lieutenant M. Cholmeley to be seconded. Dated Nov. 22nd, 1902.

IMPERIAL YEOMANRY.

Cheshire (Earl of Chester's): Captain John Evans Phillips, from 1st North Riding of Yorkshire, Royal Garrison Artillery (Volunteers), resigns his commission and is appointed Surgeon-Lieutenant. Dated Nov. 22nd, 1902.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Northumberland (Percy): Surgeon-Captain J. S. Forrest resigns his commission on the disbandment of the corps. Dated Oct. 31st, 1902.

Royal Engineers (Volunteers): 1st Lanarkshire: Surgeon-Captain R. O. Adamson resigns his commission. Dated Nov. 22nd, 1902.

Rifle: 1st Roxburgh and Selkirk (the Border): Surgeon-Lieutenant W. H. Calvert resigns his commission. Dated Nov. 22nd, 1902.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

Staffordshire: Surgeon-Major C. T. Griffiths, from 1st Volunteer Battalion the South Staffordshire Regiment, to be Major, and to command under paragraph 55A Volunteer Regulations (dated Nov. 22nd, 1902); Surgeon-Lieutenant J. A. Wolverton, from 3rd Volunteer Battalion the South Staffordshire Regiment, to be Lieutenant (dated Nov. 22nd, 1902). Sussex and Kent: Surgeon-Major J. Turton, from the 1st Volunteer Battalion the Royal Sussex Regiment, to be Major, and to command under paragraph 55A Volunteer Regulations (dated Nov. 22nd, 1902); Surgeon-Captain C. J. Jacomb-Hood, from the 1st Volunteer Battalion the Royal Sussex Regiment, to be Captain (dated Nov. 22nd, 1902); Surgeon-Lieutenant H. G. Mallam, from the 1st Volunteer Battalion the Royal Sussex Regiment, to be Lieutenant (dated Nov. 22nd, 1902).

THE SANITARY STATE OF THE FRENCH ARMY.

M. Gotteron in the French Senate recently questioned the

War Minister in regard to the health of the French army. M. Gotteron said that on comparing its annual mortality with that of the German army he found that (excluding soldiers who had been killed or died on expeditions) since the signature of the Treaty of Frankfort the French had lost 99,000 men, whereas the German army had lost only 13,000. General André, in reply, regretfully admitted that the mortality from disease in the French army was much greater than in the German army; indeed, four soldiers died in France for one in Germany. General André, after going into the subject in further detail, stated that the war department was determined upon seeking out the causes and upon enforcing the necessary precautions required for the protection of the health of the troops. The subject will, it is understood, be again discussed in the Senate in connexion with the Bill for the reduction of military service to two years.

THE ROYAL ARMY MEDICAL CORPS MEMORIAL FUND.

As will be seen from another column in this issue of THE LANCET (page 1560) we draw special attention to the steps which are being taken towards the erection of a memorial to all ranks of the Royal Army Medical Corps who fell in the South African campaign.

Correspondence.

"Audi alteram partem."

THE VIRCHOW MEMORIAL FUND.

To the Editors of THE LANCET.

SIRS,—Will you allow me to remind intending subscribers to this fund that their contributions should be sent, not to me, but to the honorary treasurer *direct*, per address: the Honorary Treasurer of the Virchow Memorial Fund, care of Messrs. Robarts, Lubbock, and Co., 15, Lombard-street, E.C., who will forward an official receipt.

I am, Sirs, yours faithfully,
FELIX SEMON,
Honorary Secretary to the Virchow Memorial Fund.
Wimpole-street, W., Nov. 29th, 1902.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

To the Editors of THE LANCET.

SIRS,—In connexion with the annotation thus entitled in THE LANCET of Nov. 29th, p. 1477, you will be interested to hear that the coroner has this week ordered an inquest on a patient who died in St. Thomas's Hospital to be performed by a Dr. Freyberger in the hospital post-mortem room. I understand that he recently adopted a similar procedure with regard to a patient who died in Guy's Hospital.

It is to be hoped that an opinion will be obtained as to the legality of the coroner's action in demanding the use of hospital premises in these circumstances. But whatever may be the legal aspect of the coroner's order there can be no doubt as to its studied discourtesy towards the hospital pathologists. The qualifications of these gentlemen are, to put it very mildly, not inferior to those of the coroner's nominee, and, moreover, they have at their disposal the hospital laboratories if microscopical or bacteriological examination prove to be necessary. But the most remarkable part of the incident is that it involves the payment of a fee by the ratepayers which would have been saved if the hospital pathologists had, as usual, done the work. It would be interesting both to the ratepayers and the profession to learn what motives induced the coroner to deviate from the strict path of official economy.

I am, Sirs, yours faithfully,
Portland-place, W., Dec. 1st, 1902. H. G. TURNEY.

THE CAMBRIDGE MEDICAL SCHOOL.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 1st, p. 1203, you give the number of students who have entered at the various medical schools for the year 1902–03. These details are most interesting, but I would suggest that their value would be largely increased if it were possible to add another column stating the number of exits from each school—the number, that is, of those who have obtained a medical diploma during the previous 12 months—together with the percentage these bear to the number who entered five years previously. These data would enable parents and others to estimate more accurately than is at present possible the teaching capacity of the various institutions and would be some index as to the probability of any particular student being successful in obtaining a diploma.

Among the schools in your list I note that the number of entries at the University of Cambridge is 125. I venture to predict that seven years hence, or at the end of the year 1909, no less than 64 of these students (or 51 per cent.) will have failed to obtain the degree of M.B. at this university. At all events, this wreckage of 51 per cent. has been the average among the students who have entered here from the year 1888 onwards, nor is there any indication of matters improving in this respect. On April 30th, 1902, I addressed a circular letter or "fly-sheet" to the members of the Senate calling attention to this grave wreckage and pointing out what I consider to be serious defects in the Cambridge medical school. This "fly-sheet" in THE LANCET of May 10th, 1902, p. 1335, you rightly term "a remarkable memorandum," "a wholesale indictment of business arrangements" of the medical school; and you further add: "We shall be interested to see what steps are taken by the Senate." No steps have been taken and as the defects still exist I shall be obliged if you will allow me to place the following extracts from my fly-sheet before your readers:—

> The very inadequate equipment of the anatomical school with material for the study of practical anatomy is a serious defect. The supply of "subjects" is so deficient that as many as 18 students are occupied in the dissection of one cadaver, four students being occupied with the head and neck, two with each extremity, &c.—a condition of things which, as far as I am aware, does not exist in any other medical school in Great Britain or Ireland. Moreover, the supply of "subjects" is so limited that very few students have more than one (or rather one-half) "part" assigned to them each term. For this limited supply of material for practical anatomy and for supervision by the demonstrators each student pays three guineas a term or nine guineas a year.
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> Another point which demands consideration and explanation is the fact that more than 50 per cent. of the registered medical students of Cambridge fail to proceed to the degree of Bachelor of Medicine. In the Medical Students' Register issued each year by the General Medical Council the number of students is given who were registered as commencing medical study at Cambridge; and in the Cambridge Calendar each year are given the names of those who have proceeded to the degree of M.B. In investigating the educational history of the Cambridge medical graduates I find that very few indeed obtain the M.B. degree in less than seven years, the majority take seven and eight years. From the sources above mentioned I give the number of medical students registered in Cambridge from 1888 to 1898 inclusive, and the number who proceeded to the degree of M.B. in the seven subsequent years respectively—

Number registered as medical students.		Number who proceeded to the degree of M.B.	
In 1888	95	52	In 1892
,, 1889	97	52	,, 1893
,, 1890	100	54	,, 1897
,, 1891	103	55	,, 1898
,, 1892	109	54	,, 1899
,, 1893	126	49	,, 1900
,, 1894	138	60	,, 1901
Total	768	376	

> which shows a deficiency or wreckage of 51 per cent.
>
> * * * * * *
>
> A final point remains for consideration—namely, the amount paid by medical students for instruction. As everyone knows, the tuition fee in the case of students reading for honours in mathematics, classics, theology, law, moral sciences, &c., is £8 a term or £24 a year. Students reading for honours in natural sciences or a degree in medicine have besides to pay for laboratory expenses, the fees for which amount to about £15 18s. a year, making a total of £42 18s. The number of undergraduates registered as medical students at Cambridge, in 1899 was 114 and five B.A.'s, in 1900 126 and three B.A.'s, and in 1901 114 and five B.A.'s; total, 364. Consequently, there are at the present time 364 medical undergraduates in Cambridge each paying annually £42 18s. for tuition, a sum amounting in the aggregate to £15,186 12s. a year, and all that the medical students receive in return for this is instruction in biology, chemistry and physics, anatomy and physiology. Moreover, a large proportion of these 364 students have to supplement the instruction received from the university by reading with private tutors at an extra annual cost of £18 to £27.

These remarks were, as I have stated, addressed to the Senate on April 30th, 1902. In the *Cambridge University Reporter* of May 28th, 1902, p. 942, Dr. Alexander Macalister makes the following statement with reference to the anatomical work in the university during the past year: "We have had enough material not only for these students but also for the practical examinations." For Part I. of the third examination for the M.B. degree in April last 99 candidates presented themselves for examination in surgery and midwifery; 53 were rejected, 46 passed. The material provided for the examination in practical surgery of these 99 candidates consisted of one cadaver and in addition two arms and two legs. At the present time there are a certain number of subjects in the dissecting-room here on each of which 18 students are acquiring that knowledge and manipulative skill which are to fit them for the future practice of surgery and medicine.

In contrast with this I may observe that in a certain well-known private school of anatomy in London the dissection of one subject is, I believe, limited to eight students, if these are preparing for the so-called higher examinations. Why is it not possible to do the same in this ancient university?

I am, Sirs, yours faithfully,

Cambridge, Nov. 8th, 1902. P. W. LATHAM.

THE HOPELESSNESS OF THE BATTLE AGAINST CONSUMPTION SO LONG AS THE ELEMENTARY SCHOOLS ARE HYGIENICALLY UNREFORMED.

To the Editors of THE LANCET.

SIRS,—Will you permit me through the medium of your journal to point out the part probably played by the elementary schools of the kingdom in the creation and diffusion of the various forms of tuberculous disease? There are throughout England and Wales 20,117 voluntary and board schools, each with an average capacity for seating nearly 400 children. These children, as is well known, collect in the schools from all quarters, from the slums, the streets lying near canals, and the more respectable quarters of the towns, as well as from the sanitary and insanitary houses and hovels of the country, and it is easy to imagine the *olla podrida* of potential and active disease that is accumulating daily in the different schools of the country. Hygienically considered, as there is scarcely any attempt to mitigate the evil, a more perfect scheme for the distribution of fevers and other diseases throughout the kingdom cannot well be conceived. If the evil were confined to the children and were fevers only to be coped with all might still be well, but two at least of these fevers—morbilli and pertussis—are often precursors to an invariably fatal form of tuberculosis. No fact in the whole realm of medicine is better established than the inter-dependence of these two fevers and tuberculosis, but it is unfortunate for the demonstration of the fact that months, perhaps even years, may elapse between the attack of one of the former and the fatal campaign of the latter. The numbers of those young persons who die from phthisis soon after leaving school are not enumerated in any table of statistics, but that they are considerable every medical man can testify. Neither are there any statistics to show the number of school children who die from tuberculous disease during school life, but it is well known to medical practitioners that the number is great and that unfortunate victims frequently disappear from among their healthy companions and are merely registered by the public registrar amongst the deaths occurring during the year. It is not impossible that these infantile fevers, in their close connexion with phthisis and other forms of tuberculosis, exercise to some extent a malign influence over the public health of the kingdom which is by these means probably inundated from one end to the other by streams of cases of consumption having the primary schools of the country as fountain heads. If this is the case the scheme devised by the originators of the war against consumption of clearing the country of phthisis is manifestly doomed to failure so long as these fountain heads are allowed to exist and to flood the country with so subtle and infectious a disease as tuberculous phthisis.

One of the truisms deducible from the rapid progress of the science of bacteriology is that a knowledge of the natural history of the bacilli causing a disease confers on humanity an absolute control of the disease. This being so, it would seem not impossible that our educational authorities are somewhat behind the times when they allow the children of the nation to congregate in an atmosphere probably crowded with bacilli and permit periodical visitations of such epidemics as scarlet fever, morbilli, and pertussis, and other fevers named and unnamed to travel almost unchecked. These fevers are always on circuit and their seasonal visits occur with a regularity as to time and a definiteness as to order which school inspectors might well envy. The two most important of these fevers on account of their relationship to tuberculosis are curiously enough to some extent ignored in elementary school life, an epidemic of either rarely being considered serious enough to close the school. The fevers are generally carried across the country along the highways of traffic, from one district to another, and it is possible that later their lines of propagation may be definitely mapped out. But nowhere is any serious attempt made to stay their progress. The Notification of Diseases Act is an attempt in this direction, but as pertussis is forgotten and the notification of morbilli is left to the option of local authorities this well-intentioned Act of Parliament is rendered futile and absurd. Singularly enough, however, when we pass to the domain where the farming interest is concerned we find ourselves in a different world in which we are surrounded by scientific regulations and laws intelligently and rigorously enforced with a view to the protection of the farmer from the bacilli of the fevers that infest animals. Here it is strikingly evident that the framers of the voluminous Diseases of Animals Acts and the Orders of the Board of Agriculture were in earnest. "Infected areas" and "suspected zones" are mapped out, competent inspectors are appointed, markets and high roads are patrolled by police, and woe betide the person who transfers even healthy animals from proscribed districts. The guilty man is promptly haled before an indignant bench of magistrates who very properly seize the opportunity of teaching him and his circle of sympathisers a lesson. Meanwhile there is a grave suspicion that the eruptive and other fevers are allowed to ride rough-shod unmolested over the tender constitutions of the children, and as a consequence it is not impossible that misery and death are thus permitted to reign supreme throughout the country.

To remedy this disastrous state of affairs a few elementary hygienic principles ought to be undeviatingly applied to the management and building of schools. As an instance let us take the average-sized school with a capacity for 400 pupils. Ten smaller schools should be built, each with a capacity for 40 pupils. These ten schools would be built each in its own district and isolated from each other. In this way in the event of an outbreak of fever in any locality it would be confined to that locality and not allowed to spread. An efficient isolation hospital would be attached to each dozen elementary schools. Permanent brick or stone school buildings are unnecessary, the smaller buildings can be better built of wood, so that in the event of an epidemic bursting through the cordon of organised precautions without, the building may be sold as fire-wood and the children may be reinstated in a new and healthy building. The act of moving a possible case of fever from a suspected zone into a healthy area ought to be made penal and the present stringent laws enforced by the police of the various counties with respect to the diseases of animals might in many ways be imitated with regard to the infantile fevers. Competent inspectors would have to be appointed and an official report would announce the appearance or the approach of an epidemic of morbilli or pertussis. All the ordinary sanitary precautions would then be redoubled, a close scrutiny maintained of all children, and any suspicious cases at once isolated in a building possibly adjoining the school where the necessary diagnosis could be made. If the disease proved to be one of the infantile fevers the child would not be sent home but to the isolation hospital appropriate to the school. The medical officer of health would decide whether the school ought to be closed or not. In any case, on account of the smallness of the school, this would be a matter of minor importance. It would thus be brought about that the greater part of the children of a district would reach eight or ten years of age without having their healths shattered by illnesses which now so often occur. In these cases it would be wise at a certain age to send them as occasion offered to the isolation hospital to catch, or to be inoculated with, a

mild type of fever then available and to be properly nursed through the different stages so that a rapid and complete convalescence may be insured. Some such scheme as the foregoing is, I consider, well worthy of the attention of sanitarians, since the control of the infantile fevers is, in my opinion, the key to the capture of one of the most important strongholds of consumption and will open the way to the undoubtedly approaching triumphal achievement of sanitary science, "the clearing away of consumption from the country."

I am, Sirs, yours faithfully,

E. CLUNEGLAS DAVIES, M.D. Durh.

Lampeter, Nov. 5th, 1902.

NOTE ON THE DISCOVERY OF THE HUMAN TRYPANOSOME.

To the Editors of THE LANCET.

SIRS,—Being responsible for the reference to trypanosoma which appeared in the *Journal of Tropical Medicine* of Nov. 1st, I feel that it is my duty to answer the very formal protest advanced against it in THE LANCET of Nov. 22nd, p. 1426, by Dr. Robert Boyce, Major Ronald Ross, and Dr. C. S. Sherrington. The protest of these gentlemen has surprised me in the extreme and I am bound to say that even now I am unable to grasp the real motive which prompted their letter. Anyhow, I will suppose that they considered my communication an encroachment on their rights of priority, similar to that which they unfortunately made soon after Dr. Low's demonstration at the London School of Tropical Medicine, that the larval filaria Bancrofti, having reached a certain stage of development in the thoracic muscles of culex fatigans, migrates to the insect's trophi to be subsequently inoculated into a fresh human host. Had my communication been so devised, it would not yet have been a parallel case, because I sent it to a well-informed medical journal, whilst their notification appeared in the first instance in the lay press.

Anyone who will read my communication with an unbiased mind will, I am sure, be unable to see adequate reason for their protest. I did not attribute the discovery of the presence of trypanosoma in man either to Dr. P. Manson or to Dr. C. W. Daniels. I simply stated that Dr. Manson, having had the opportunity of examining Mr. R. M. Forde's patient in Liverpool was able to diagnose a second case which was subsequently studied at the London School of Tropical Medicine, and that Dr. Daniels had found, and of course recognised, the trypanosome just as Dr. Dutton had recognised the nature of the parasite found by Mr. Forde in his case. Further, I added that the presence of trypanosomes in a second case presenting the same striking and grave symptoms observed in Mr. Forde's patient showed that the presence of trypanosomes could no longer be regarded as a mere curiosity like many erratic parasites occasionally found in man, but must be looked upon henceforth in certain regions as an important pathological factor.

I did not sign my hasty communication because its object was not that of advertising my name and I stated that an accurate account of the case would be published very shortly by those who were investigating it. I did not mention Dr. J. E. Dutton because it did not occur to me that he had anything whatever to do with the case I was reporting, and even now I utterly fail to see why I should have mentioned his name. In other publications on filaria, &c., I have at opportune times mentioned Dr. Dutton's excellent work. In this instance I was not writing in praise of the Liverpool School; that has been done lately to a large extent. I was merely mentioning an interesting case of trypanosoma infection.

Having explained the reason of my anonymous communication I must now myself protest against the very gratuitous accusation brought by Dr. Boyce, Major Ross, and Dr. Sherrington by saying: "We believe that such statements are calculated to distort the history of the discovery and should therefore like to have an opportunity for correcting them promptly in your pages." These gentlemen virtually accuse me of having attributed the discovery of the presence of trypanosoma in man to Dr. Manson and Dr. Daniels—a statement which I did not make nor ever dreamt of making. But what is still more surprising is that while they accuse me of distorting the history of this discovery they ascribe the honour of having made it to "an old student and assistant" of their laboratory. I am sorry that Major Ross, who has so strongly resented Professor Grassi's encroachments upon his work, should now set aside information of which he is evidently aware for the purpose of claiming for his own school the discovery of trypanosoma in man.

Major Ross and his colleagues, after having stated that "Dr. Dutton was the first clearly to observe and to signal the existence of trypanosomes in human blood, and the first to give accurate descriptions of the new organism," add, without mentioning dates and in the most unfair manner, that "Barron and Nepvew have also claimed to have found flagellates in human blood, but as will be seen from their writings, *their descriptions are so inadequate as to fail to convince us of the accuracy or even the nature of their observations.*" (The italics are mine.) To disprove these erroneous statements I can do no better than quote *verbatim* Dr. G. Nepvew's very clear account of his discovery of trypanosomes in man which, be it noted, he made between 1890 and 1898, and published in the *Comptes Rendus des Séances de la Société de Biologie* of Dec. 24th, 1898, many years before Dr. Dutton's publication. Dr. Nepvew writes as follows:—

So far trypanosomes have been found only in the blood of animals; in India they have been found in the blood of the rat (Lewis), the horse (surra epidemics), the dog, and the domesticated elephant. In Africa they have been discovered in the disease caused by the tsetse fly and in Europe in the blood of the rat, the rabbit, various birds, and the frog. No one seems to have found them yet in man; however, Laveran states that Barron seems to have found certain flagellated protozoa of an undetermined genus in the blood of an anæmic woman. In 1890, in consequence of researches made in Algeria on the malaria parasite, I found in the blood of a patient, besides Laverania, a flagellate which was rather common, because I could count about three in each preparation of 18 square millimetres. At about that time (see Nepvew, *Etudes sur les Parasites du Sang chez les Paludiques*, 21, 1891, in *Bulletins et Mémoires de la Société de Biologie*) I already published some of the drawings I had so far collected. I hoped then that I might be able to complete my first observations by a more detailed study, but after that only very rarely have I been able to find that parasite. I have therefore decided to publish the following facts in the hope of drawing the attention of such naturalists and physicians who will have the opportunity of completing these researches. This trypanosoma presents all the characters of the genus: general shape a homogeneous colourless membrane, one border of which is thinner, hyalin, and presents characteristic undulating movements. This membrane bears a nucleus and a fine flagellum which is placed anteriorly and the undulations of which follow in rapid succession. Thus it presents itself in Khill (quotidian fever), in Cabane (pernicious comatose fever). In a third patient, Ginestet, I have found certain organisms which I thought I might compare to those described under the name of trypanomonas, a form which is probably only an evolution stage of the trypanosoma. In this patient the organisms were provided with two flagella at one of their extremities. Labbé has described such a trypanomonas.

In over 200 patients, mostly malarial, of which I have examined the blood, I have only found these various forms in six—three of them were suffering from quotidian fever (Khill, Langevelle, Bichielli) one a double tertian (Hendrick), two the pernicious comatose fever (Cabane and Ginestet); the seventh observation was on Dr. X—— who was apparently in good health. In none of these patients have I been able to observe any symptoms characteristic of this special parasitic invasion. They were almost every one of them suffering from the effects of Laverania which prevailed on everybody and everywhere in its various forms. This seems therefore purely and simply a coincidence which has seemed to me worthy of notice.

In conclusion, trypanosoma must be classed amongst the parasites of human blood. I am unable at present to give a more complete description of this variety with the necessary precision, I therefore abstain from giving it a special name. It is better to establish first the analogies and differences which I perceive between this parasite of man and the congeneric parasites of animals, and also to complete the observations on its morphology and life-history."

The above quotation speaks for itself and I will only add that there can be no question about Dr. Nepvew's *bona fides*. The two-flagellated organism he mentions in his paper is so peculiar a feature that it is not likely to be imagined. That it is a feature of the trypanosoma of man I can attest, because Dr. Daniels found it in the blood of our patient. It is to be regretted that the representatives of the Liverpool School of Tropical Medicine, in their praiseworthy endeavour to make a new discovery, should have again overlooked previous work.

I am, Sirs, yours faithfully,

LOUIS W. SAMBON, M.D. Naples,

Lecturer at the London School of Tropical Medicine.

Nov. 27th, 1902.

THE AMBULANCE SERVICE OF LONDON.

To the Editors of THE LANCET.

SIRS,—Dr. A. S. Morton has called attention to one of the many matters in which the metropolis of the Empire is far behind most other important towns—namely, the want of an ambulance service for accidents and non-infectious diseases. I have many years ago called attention, both locally and in medical papers, to this want. The police supply hand ambulances for accidents in the street but they are not allowed to be used for people going from a private

house. Lady Strangford, I believe it was, presented the police with the ambulance to which I think Dr. Morton refers in uncomplimentary terms, many years ago. It is now, of course, quite out of date. The St. John Ambulance Association has met the want for the wealthy but for the general public in London there is practically no ambulance service. I am glad to say, however, that for Woolwich I have at last succeeded this year in obtaining an ambulance by means of public subscriptions. £90 were raised in this way and an excellent horse ambulance was purchased. This is vested in trustees and is lent to a local cab proprietor who keeps it and lends it out for use whenever required at the statutory cab fares, so that anybody requiring removal to hospital can obtain now a well-equipped ambulance at the same price and with the same ease as an ordinary cab. I would suggest to Dr. Morton that he should try to supply Hammersmith with an ambulance in the same way and shall be glad to give him further particulars of my experience on the matter in Woolwich if he desires it.

I am, Sirs, yours faithfully,

SIDNEY DAVIES,

Woolwich, Dec. 2nd, 1902. Medical Officer of Health of Woolwich.

*** We believe that the whole question of ambulances in London will shortly be brought before the London County Council in a report made to the Council by Sir William Collins.—ED. L.

THE ANATOMY OF GLÉNARD'S DISEASE.

To the Editors of THE LANCET.

SIRS,—I have read with much interest your editorial annotation on the subject of the Anatomy of Glénard's Disease.[1] I have not had an opportunity of perusing Dr. Arthur Keith's lecture which forms the subject of its comment. But whether the original mistake is due to Dr. Keith or to his commentator the annotation in THE LANCET now before me gives a decidedly erroneous view of some of the most important items in the mechanism of inspiration. In dealing with the action of the diaphragm we are told that: "He proceeds to correct some current and erroneous ideas as to the action of this muscle, and shows that it will enlarge the thoracic cavity mainly by lengthening it, by a depression of the heart and abdominal viscera when the muscles of the belly wall are slack, but by increasing in a proportionately greater measure the width and depth of the chest by the elevation of the lower ribs when the belly wall is resistant either by reason of its good muscular development or from the artificial support of corsets." Now I will take the liberty of pointing out to your readers that the action of the diaphragm has long been understood by skilled anatomists much better than it seems to be by the writer of the sentence here quoted. Fixed as it is by its more stable (circumferential) attachments to the xiphoid cartilage in front, to the upper three or four lumbar vertebræ behind, and to the lower six (sometimes one more or less) ribs on either side, its muscular fibres converge to the central "cordiform" tendon, to a considerable portion of whose upper surface the pericardium is firmly adherent. The intermediate muscular fibres form curves—in the quiescent state—strongly convex upwards towards the thoracic cavity. The necessary result of this arrangement is that the contraction of the muscle as a whole converts the individual curves of its fibres into approximately straight lines. As a necessary consequence there is increased depth of the circumferential regions of the thorax. But the central tendon is only very slightly depressed; there is little change in the position of the heart or of the other contents of the "middle mediastinum." The simultaneous contraction of all the intercostal muscles in the act of inspiration raises and rotates the ribs, thereby widening the chest and, by throwing forwards the sternum, increasing its antero-posterior depth. But the four lower ribs are, at the same time, subjected to a peculiar influence which would appear to have been entirely overlooked by your commentator. A very interesting and important muscle, the serratus posticus inferior, used to be described by the older physiologists as a "muscle of expiration"—and very wrongly. Arising from the last two dorsal and first two lumbar vertebræ, this muscle is inserted into the four lower ribs—outside the vertical line of their "angles." Its contraction, necessarily, draws these ribs downwards and backwards. By acting simultaneously with the diaphragm and intercostal muscles, it has the effect of widening the basal section of the thorax, where most expansion is attainable. Whenever the movements of the lower ribs are trammelled by the contraction of the abdominal muscles the necessary result is deficient expansion of the thoracic cavity. And when the widening of the loose segment of the thorax is limited, as it necessarily always is, by the use of tight corsets the result is very similar. Here lies the real evil of the use of corsets so far as the function of respiration is concerned. But nature has, I must observe, rather liberally provided for difficulties of respiration in this region in case of the female section of the population. Thoracic expansion with them is mostly of the "superior thoracic" type; and accordingly they are found in practice much more tolerant of constriction in this region than the enemies of corsets usually assume them to be. I have known some "wasp-waisted" ladies who could run, walk—aye, and even talk—faster than most of their female, or any of their male, rivals in these departments of physical exertion.

I am, Sirs, yours faithfully,

Dublin, Nov. 19th, 1902. JOHN KNOTT, M.D. Dub.

*** Dr. Knott is criticising a paper which he has not read. His remarks as to the action of the diaphragm are mostly academically correct, but had he read the paper he would have gathered that several of his premisses are probably incorrect, particularly that which assumes the relative immobility of the central tendon. As to the assertion that the lower ribs are drawn downwards and backwards by the simultaneous contraction of the diaphragm, intercostals, and serratus posticus inferior, it is sufficient to remark that clinicians who have opportunities of watching the isolated actions of muscles in disease are all agreed that the diaphragm *elevates* the lower ribs.—ED. L.

[1] THE LANCET, Nov. 15th, 1902, p. 1328.

SHOULD PNEUMONIA BE CLASSIFIED AMONG THE SPECIFIC INFECTIVE DISEASES?

To the Editors of THE LANCET.

SIRS,—At the present time there is an increasing tendency to separate pneumonia from the diseases of the lung and to classify it among the specific infective diseases. This has been done in some of the recent text-books of medicine and presumably it will be discussed by the nomenclature committee of the Royal College of Physicians of London. The matter is one of great importance, not only with regard to pneumonia, but also with regard to the nomenclature of diseases generally. Since a disease is not a definite entity but is a state involving the idea of motion we cannot classify diseases in the same way as we can classify definite objects. We can only classify them according to the factors concerned in their causation or according to the effects produced by them. These two methods of classification are both necessary and neither can replace the other. The definition of a disease depends on its classification and the significance of the name depends on the definition. The name, therefore, of a disease connotes either a definite causal factor, or an effect, whether the effect be an anatomical or a functional change or a symptom. In the case of the specific infective diseases the name connotes a specific extrinsic causal factor. Although we do not know the causal factors concerned in the production of many of these diseases, yet from the fact that they breed true and from other evidence there can be no doubt that specific agents are concerned in their causation. The term "syphilis," for instance, connotes a specific but unknown causal factor and does not connote any definite effect. Again, the term "tuberculosis" used to connote a definite effect—namely, the presence of tubercles in the organs; now, however, the term connotes a specific causal agent—the bacillus—whether or not tubercles are present in the organs, and it therefore excludes all cases in which the tubercles are present but which are not due to the specific bacillus. This alteration in the connotation has led to a confusion in the nomenclature with the result that we have had introduced the unsatisfactory term "pseudo-tuberculosis."

Now the term "pneumonia" connotes a certain effect—namely, a certain condition of the lung, and this condition is

further specified by the use of adjectives, such as fibrinous, catarrhal, &c. "Acute fibrinous pneumonia," therefore, connotes an acute fibrinous inflammation of the lung, whether this be caused by the pneumococcus, the streptococcus, the bacillus pestis, or other causal agent. The term, therefore, does not connote any specific causal agent and, in consequence, the disease pneumonia should not be classified among the specific infective diseases. If we wish to designate the disease characterised by having the pneumococcus as its specific causal agent we can do so by the term "pneumococcosis," thus following numerous precedents. If, however, we use the term "pneumonia" in this sense the term will be divorced from its proper meaning and we must never again use it to connote any condition of the lung, but must reserve it for those diseases which are characterised by the presence of the pneumococcus, whether or not the lung is affected. We should therefore have to include in it many cases of otitis media, pleurisy, pericarditis, &c. We have, in fact, no more right to classify pneumonia among the specific infective diseases than we have to do the same with pleurisy, pericarditis, &c.

It may be taken as a rule, to which there is no exception, that "a disease which is characterised by a specific effect is never characterised by a specific extrinsic causal agent," and, conversely, "a disease which is characterised by a specific causal agent is never characterised by a specific effect." Any alteration in the significance of accepted medical terms is bound to be followed by a hopeless confusion in medical nomenclature. It is to be hoped, therefore, that the nomenclature committee will refuse to sanction the proposed alteration in the significance of the term "pneumonia."—I am, Sirs, yours faithfully,

CHARLES POWELL WHITE, M.D. Camb.,
Assistant Pathologist and Demonstrator of Pathology at
Nov. 21st, 1902. St. Thomas's Hospital.

DEGREES FOR LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—In answer to the letter of "A Graduate and Diplomate" in THE LANCET of Nov. 29th, p. 1488, while begging to thank him for his remarks of sympathy, I would point out that all that has been said, as far as I know, in print upon the matter (and I have watched the question for some years) amounts to what is contained in the report of Sir William Jenner's committee, 1885:

> That the curriculum of study and the examinations to be undergone for the licence of the Royal College of Physicians of London and the diploma of the Royal College of Surgeons of England are equal to those required by most universities for degrees in medicine and surgery.

As regards his own experiences individual examples could be quoted where provincial graduates have failed to pass the final examinations of the Royal Colleges.

In conclusion, a perusal of the last list of successful candidates in the examination held for commissions in the Indian Medical Service shows that the provincial graduates are in no way superior to the London diplomates, and it is to be noted that this list includes several graduates of Cambridge.

I am, Sirs, yours faithfully,
F. W. COLLINGWOOD.

Devonshire-street, W., Nov. 28th, 1902.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—All but those interested in maintaining the present oligarchy at this College must agree with Mr. D. Vinrace as to the desirability of giving the Members the power to elect their (so-called) representative on the General Medical Council. I write, however, to assure Mr. Vinrace that nothing but an Act of Parliament or a new Charter can give the Members this power. What chance there is of obtaining the former can be easily imagined and the latter is never granted except on the application of the governing body for the time being. If Mr. Vinrace can induce the Council to make this application he will be more fortunate than others have been in the past. The "Society of Members" took counsel's opinion several years ago on this very point of the election of the College representative on the General Medical Council and was advised that under the existing Charters the appointment could only be made by the Council.

The amount of interest taken in College affairs is hardly indicated by the attendance at a meeting carefully deprived of all powers which properly pertain to it and held at an inconvenient hour at a busy time of year. That many Members still take an interest in their College is rather shown by the facts that 3245 have applied for the Council's report to be sent to them annually and that the number belonging to the "Society of Members" has more than doubled within the last year or so. However, we are fully conscious that it is futile to rely longer upon the proceedings at the annual meeting as the only means of inducing the Council to consider our claims and we hope shortly to initiate a more effective policy.—I am, Sirs, yours faithfully,

Dec. 1st, 1902. W. G. DICKINSON.

THE UNIVERSITY OF LONDON AND THE ENGLISH ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.

To the Editors of THE LANCET.

SIRS,—I would like your permission to reply to Mr. Munro Scott's statement in THE LANCET of Nov. 15th, p. 1351, that "after all it is not desirable that every practitioner should be of the highest rank—there must be the more ordinary class to attend the poorer part of the population"; and also to his suggestion that the Royal Colleges of Physicians of London and Surgeons of England should amalgamate with the Apothecaries' Hall to unitedly create an inferior order of practitioner. It must be very interesting for fathers who have been put to great pecuniary sacrifice on their sons' behalf and to the sons who have toiled for many hard years to obtain their M.R.C.S. and L.R.C.P. to know, on Mr. Munro Scott's authority, that these qualifications are the stamp of an inferior grade of practitioner, who is only fit to be trusted to practise on "the poorer part of the population." Sir Frederick Treves once stated that any man who had filled the posts of house surgeon and house physician at the London Hospital was fit for any medical or surgical appointment in the world, and I have no doubt that eminent medical men of other hospitals would make a similar statement in regard to those who have occupied similar posts elsewhere. Now these posts are usually held by men whose qualifications are the M.R.C.S. and L.R.C.P., and who in many instances are prevented by outside circumstances alone from proceeding to their Fellowship, and yet these men, according to the insinuation of the Warden of the London Hospital, are fit only to attend "the poorer part of the population." On reading Mr. Munro Scott's effusion I at first came to the conclusion that the letter must have emanated from a layman, for I could not conceive of any professional man being so unprofessional as to suggest that he himself and a few equally "select" individuals were alone competent to attend the "rich portion of the population." But when I saw appended to his signature the fact that he is Warden of the London Hospital my diagnosis changed and I concluded that the writer must have been a London M.D. and F.R.C.S. Eng. (and perhaps even an F.R.S.) who from a lofty height of intellectual eminence and occupying a position of "splendid isolation" looked down with pity (not to say scorn) on those of his professional brethren whose cerebral centres were not so well academically represented as his own. But on looking in the Medical Directory I could not find the name of this gentleman who writes from "behind the scenes"—could not find that he even possessed the diplomas which he affects to despise, and so I presume he is not even qualified to attend "the poorer part of the population." Well, if his medical and surgical knowledge is not of a higher order than his comments on the qualifications of medical men this is perhaps a good thing for "the poorer part of the population." Comparisons are always odious, but I do not think that any fair-minded man competent to judge will deny that London medical students who study under the members of the staffs of the various metropolitan hospitals and who qualify with their M.R.C.S. and L.R.C.P. are in no way inferior in their professional knowledge to gentlemen who have graduated at our provincial universities. And certainly I think that any man who knows anything about

examinations will also agree that students who pass their M.R.C.S. and L.R.C.P. (where their examiners are always strangers) go through an ordeal as thorough, as well as painful, as that experienced by the graduates of, let us say, Aberdeen or Edinburgh, where the examiners are the candidates' own teachers. Are the graduates of these universities also fit only to attend the poorer part of the population?

In conclusion, I would state that many of the most eminent provincial surgeons have only the M.R.C.S. or an equivalent qualification, and I am not aware that these men confine their attention exclusively to the poor. It will need a greater authority than Mr. Munro Scott apparently is to convince me that medical men in general practice are so ignorant and so unskilful that well-to-do people cannot trust them with their lives. We hear much nowadays of the overcrowding of the medical profession. Well, if it is to be overcrowded, let it, at all events, be overstocked with skilful and well-educated gentlemen qualified to attend all sections of the community; and may heaven save us from those—whatever their position—who take every opportunity to insult the general practitioner professionally and socially.

If the M.R.C.S. is to become the hall-mark of an inferior practitioner then many a man besides myself will be sorry he ever became

A MEDICAL STUDENT.

PAROCHIAL MEDICAL APPOINTMENTS IN THE HIGHLANDS AND ISLANDS OF SCOTLAND.

To the Editors of THE LANCET.

SIRS,—I desire to call the attention of the profession to such cases of hardship as the following, several of which have happened in the highlands and islands of Scotland. A parochial medical officer is appointed to a remote and poor parish at a fixed salary mentioned in an advertisement which has appeared in a newspaper. Subsequently to his appointment at this fixed salary and after his arrival in the remote parish he is informed by the parish council that he has to make fixed fortnightly, or perhaps monthly, visits to a distant part of the parish, perhaps 10 to 20 miles from his residence, and that he has to do so at his own expense and whether or not there happen to be any paupers sick at the time. Also he is told that from £5 to £10 included in his advertised salary is for medical and surgical appliances to be provided by him for sick paupers. The medical officer protests against such conditions being forced upon him in such a clandestine manner and at the expense of his fixed salary, but he receives no satisfaction from his parish council which replies that these conditions are a part of his duties. Should the medical officer appeal to the Local Government Board it replies that it is powerless to interfere and that the council may require these fixed visits if it thinks them necessary. If this is so, then medical officers who act under unscrupulous parish councils may say good-bye to any little "fixed salary" they may expect, for such parish councils as predominate in the remote highlands and islands will not hesitate to compel their medical officer to perambulate the whole parish, at his own expense, looking for possible cases of sickness among paupers. These visits to distant parts of the parish on fixed dates, though ostensibly for paupers, are really required for the benefit of ratepayers resident in such distant parts who thereby expect to secure the medical officer's services more conveniently and at a cheaper rate. Should the medical officer refuse to attend these people when on these so-called "parochial" visits they would immediately petition his parish council to dismiss him and this the parish council would likely do as it has still the power to do so owing to the anomalous state of the law in Scotland. Rule 15 of the Local Government Board for parishes which participate in the medical relief grant clearly states that the inspector of poor should send the medical officer a written notice of any case of sickness (requiring his attendance) among the paupers. An "addendum" to Rule 9 of the Local Government Board requires that the cost of medicines and medical appliances should not be included in the fixed salary of the medical officer. The Local Government Board, however, seems to be disinclined to interfere with parish councils which choose to require their medical officer to perform what are, practically, the duties of the inspector of poor, yet the Board objects to a medical officer holding the appointment of inspector of poor at the same time. The medical officers of the highlands and islands are not Chinese doctors who are paid to visit their patients in health and to keep them so. No; by the Poor-law Act the medical officer is required to attend *sick paupers only* when the names of these are forwarded to him by the inspector of poor. It is to be hoped, therefore, that all medical men will give these notorious Highland and Island parochial medical appointments as wide a berth as possible until such time as the Government is forced to initiate legislation to abolish the many and urgent grievances connected with this miserable parochial service.

I am, Sirs, yours faithfully,

MEDICAL OFFICER, NOT INSPECTOR OF POOR.

Dec. 1st, 1902.

THE ORGANISATION OF THE PROFESSION.

(FROM OUR SPECIAL COMMISSIONER.)

The Midland Medical Union and the Colliery Surgeons.—Important Dispute in Nottinghamshire.—Hostile Attitude of the Mine Owners towards the Medical Profession.

WHEN I was engaged in investigating the history and progress of the Northumberland and Newcastle Medical Union the attitude of the owners and managers of the coal mines was never alluded to as a factor affecting the situation. Indeed, it was only in response to my own inquiries that I elicited information to the effect that the mine owners had in no wise interfered but were personally in sympathy with the medical profession. Nor should I have put such a question but that I had heard a very different report from some of the Midland coal-fields, otherwise it would not have occurred to me that the mine owners and managers would have any reason for interfering with the relations existing between the pitmen and their medical attendants. Nevertheless, there is in the Midlands an alliance between the collier trade-unionists and their employers the mine owners against the medical union. To ascertain the full details I went to Sutton-in-Ashfield, near Nottingham. This mining centre has a population of about 16,000 inhabitants and within a mile or so there are the villages of Skegby and Hucknall-under-Huthwaite, each with 5000 more inhabitants. The great majority of these people are colliers, so that medical men practising there depend almost exclusively on club—that is, on contract—work. There are hardly any wealthy manufacturers in the neighbourhood and the only possible private patients that can be obtained belong to the small shopkeeper class and many among them are members of sick clubs or of friendly societies.

It was at the commencement of 1901 that a medical union was formed in this district. Dr. E. Jepson, President of the County of Durham Medical Union, had sent circulars urging that the practitioners should no longer remain isolated but that they ought to organise. As a result several meetings were held, notably at Mansfield, and a medical union was formed which at first was independent of the union that already existed at Nottingham. From Mansfield circulars were addressed to the practitioners in the neighbouring county of Derbyshire and the response was very encouraging. As already mentioned on previous occasions, not only was the Midland Medical Union formed, embracing the counties of Nottingham and Derby, but it ultimately amalgamated with the union formed several years previously by the practitioners of the town of Nottingham. At the first annual meeting of the Midland Medical Union a rule was adopted to the effect that no member of the union should attend a midwifery case for less than one guinea. One of the members, Dr. W. C. Rainsbury, medical officer to the miners employed at the Teversal Colliery Club, near Skegby, had been attending cases of midwifery for 10*s.* 6*d.* He was, however, quite willing to carry out the rule of his union and at the commencement of the year 1901 he gave notice to that effect to the committee representing the miners. In the month of February he received a letter from the miners' committee complaining of the charges which he had made for midwifery, for tooth-drawing, and for sick allowance certificates. Other complaints followed, but nevertheless on March 20th his appointment as medical officer to the miners was renewed. He was, however, informed that the charge for midwifery made at the time must be only

10s. 6d. though he was at liberty to get more afterwards if he could. Of course it is not practical to accept half a guinea before the birth and then demand a guinea afterwards. He therefore refused to sign the agreement and consulted his branch of the medical union. Several meetings were held and finally Dr. Rainsbury was advised by his branch of the medical union to sign the agreement as a means of pacification, and this he did, under protest, on May 9th. On May 13th the agreement was returned to Dr. Rainsbury and he was told that his application was unsuccessful. The fact was that in the interval a medical practitioner had been found and imported into the district. But the miners soon discovered that he had already been dismissed from another medical aid society. The miners were now anxious to get rid of this individual and wanted to reinstate Dr. Rainsbury. The imported practitioner was not, however, willing to be dismissed. He claimed compensation for the loss of his appointment and a sum of £130 was mentioned.

What followed casts a lurid light on the dependent and forlorn position of medical practitioners when standing alone in such a district. Here was a body of miners who had badly blundered and yet they felt that their former medical officer was so dependent upon them that they actually had the impertinence to ask him to pay the cost of their errors. Dr. Rainsbury assured me that as a condition of his reinstatement he was asked to pay out of his own pocket £130 compensation to the individual who had come and taken his post but whom the miners now proposed to dismiss. Nor was this all. In consequence of these difficulties the miners' committee had been obliged to meet frequently and they wanted Dr. Rainsbury to pay them for their loss of time. But perhaps equally startling and illustrative of the state of affairs is the fact that Dr. Rainsbury did not absolutely refuse to negotiate on such a basis. He certainly would not have anything to do with the proposed compensation to the interloper; but he actually offered 11 guineas to the committee as compensation for the time they had lost in seeking to deprive him of his livelihood. The interview on this question took place on June 21st. After much discussion and when Dr. Rainsbury offered 11 guineas to the committee, adding even that he would try to get more, it seemed as if an agreement would be concluded and that Dr. Rainsbury would be reinstated. But just at this point a miner present rose to complain that Dr. Rainsbury had charged a guinea for an accouchement though he had signed accepting the agreement which stipulated that he should only charge 10s. 6d. Dr. Rainsbury reminded the members of the committee that this agreement had not been accepted by them and that they had returned it to him. He had not endured so much trouble for nothing and now he adhered to his claim for a guinea according to the rule of the medical union. Thereupon the whole negotiations fell through and Dr. Rainsbury was not reappointed. The miners remained without any medical officer till the following month of October.

What followed I take from the written evidence of a miner which is in the hands of the secretary and solicitor of the Midland Medical Union. This miner was employed by the Silver-hill pit and in this district there is a miners' medical club called the Workmen's Provident Fund, to which Dr. Edgar Mitchell was the medical officer. Not far off in the Stanton-hill district the same fund or club employed Dr. Rainsbury of Skegby as the medical officer for that neighbourhood. Dr. Rainsbury's appointment terminated in June, 1901, and the club had some difficulty to replace him. Various medical practitioners attended to the sick as private patients and were paid out of the fund. Somewhere about the month of August the Workmen's Provident Fund obtained the services of a surgeon, but when he became aware of the circumstances that had led to the termination of Dr. Rainsbury's appointment he gave up the position and left without even taking the money that was due to him. The men then again chose their own medical men and took their bills to the colliery office where they were paid out of the fund. The club advertised in the papers but the medical papers refused to continue the insertion, and it may here be added that the Midland Medical Union caused counter advertisements to be published. In the autumn of the year someone thought of writing to Dr. Alexander David Crawford, who was known in the neighbourhood, for he had formerly lived at Stanton-hill, advising him to apply for the vacant post. In reply, Dr. Crawford, who was then in practice near Birmingham, wrote to the secretary of the club, Mr. G. Greatrix, and thereupon a meeting of the Silver-hill pitmen was convoked. The witness whose statement I am abbreviating was present and relates that Mr. Filchett, a member of the club committee, was called upon by the chairman to make a statement. In response, he said that a letter had been received from Dr. Crawford in which the latter had expressed his willingness to take Dr. Rainsbury's appointment on condition that he could have the whole of the practice for both the Stanton-hill and the Sutton-in-Ashfield districts. Dr. Crawford, it was stated by the speaker, explained that he was making £700 where he was and that therefore it would not pay him to remove if he did not have both the districts that were within the sphere of the club's action. Therefore Mr. Filchett explained that if Dr. Crawford's offer were accepted it would be necessary to dismiss Dr. Mitchell, and he added: "We shall be sorry to part with Dr. E. Mitchell as we have never had any complaint against him." Several members of the Workmen's Provident Fund thereupon rose and spoke in favour of Dr. Mitchell and declared they would not like to part with him. On the other hand, some of the Stanton-hill men, who were then without a medical officer, replied that, however sorry they might be, still they must have a medical man and that there seemed to be no other course open than that of accepting Dr. Crawford's terms. There were about 100 members present at this meeting and the vote was taken by a show of hands. Two checkweighmen and the chairman counted the votes and said there was a majority of two in favour of appointing Dr. Crawford. It was a good meeting though not more than half of the pitmen were there. The greater part of the Sutton-in-Ashfield men—that is, the men in Dr. Mitchell's district—held another meeting, expressed their dissatisfaction at the way the vote had been taken, and passed a motion demanding a ballot. This request was complied with and some 600 voting papers were printed and issued, with both Dr. Crawford and Dr. Mitchell's names on them. The result was a majority of about 180 in favour of Dr. Mitchell.

From this it would seem that the members of the club, if they had been able to decide the matter, would have acted fairly, but the secretary called the committee together and told that body that the members had nothing to do with the matter. He insisted that the appointment of medical officers was entirely in the hands of the committee. The witness whose statement I am quoting goes on to say that several meetings were held and eventually "we" met Dr. Crawford at the New Cross Hotel. This presumably means that the witness was himself present at the interview which took place late in August. The men's deputation, the narrative states, told Dr. Crawford that the men would be very sorry to lose Dr. Mitchell and asked whether he would be willing to let Dr. Mitchell retain the Sutton-in-Ashfield districts and content himself with the Stanton-hill district. Dr. Crawford is reported to have replied: "No; it is not possible. I have already engaged a man to come and reside at Sutton, while I shall live at Stanton-hill." He added: "I am fully aware of all I shall have to contend with." Further efforts were made to persuade him but he would not give way. The man he had engaged was at the hotel at the time of this interview but did not enter the room. Other meetings were held but nothing could be done. Then a letter signed by the checkweighman Baugh was sent to the secretary, Mr. Greatrix, saying that unless Dr. Mitchell was retained the members would refuse to pay further subscriptions to the club and this was in accordance with a resolution that had been passed at a meeting. It will be seen, therefore, that the men could not do more, but now comes a final and astounding assertion. It is asserted that the manager of the colliery, Mr. Jonathan Pigford, who is also chairman of the fund committee, replied that those miners who did not pay to the fund would be dismissed. Further, it is added that "Mr. Filchett, a member of the committee, told me that Mr. Pigford told him that subscribing to the fund was a condition on which the men are employed." Finally, the witness says that the next meeting the miners held passed a vote of thanks to Dr. Mitchell and of regret that they had to lose him. Dr. Crawford, he adds, was fully aware of the appointment held by Dr. Mitchell; besides, he had lived in the neighbourhood and knew the local circumstances.

While the miners of the Sutton-in-Ashfield district thus struggled to retain their medical officer, Dr. Mitchell, the Midland Medical Union was active on behalf of both the threatened practitioners. A deputation was sent to explain matters to the club committee. When the medical union

heard that negotiations had been opened with Dr. Crawford he was at once communicated with, the matter was fully explained, and he was begged to have nothing to do with the appointment. Further, Dr. R Saundby of Birmingham took the trouble to call expressly on Dr. Crawford in the hope of dissuading him from accepting the position vacated by Dr. Rainsbury. All these efforts were futile. Dr. Crawford came with his partner, Mr Robert James Farman. The latter established himself at Sutton-on Ashfield so as to do Dr. Mitchell's work, while Dr. Crawford went to Stanton-hill, Skegby, so as to do Dr. Rainsbury's work. The council of the Midland Medical Union consequently held a meeting at Nottingham on Jan. 17th, 1902, and passed a motion declaring that Dr. Crawford and Mr. Farman had acted in a manner which was opposed to the objects and interests of the Midland Medical Union and that by a previous resolution of this union every member is pledged to abstain from giving such practitioners any professional assistance by consultation or otherwise. As a consequence Dr. Crawford and his partner have been completely ostracised, for all the practitioners in their neighbourhood are members of the Midland Medical Union. But the presence of these two parties prevents the union practitioners from making any effort to improve their position. Dr. Mitchell and Dr. Rainsbury still remain on the spot. Dr. Mitchell assured me that many of his old club patients continued to come to him and paid him as private patients, though they have also to pay the subscriptions to their club. Dr. Rainsbury on his side thinks that the miners would be willing to have him back on his own terms if they were not intimidated by the proprietors of the colliery where they work. It is stated, and is a subject of conversation, that the colliery proprietors desire to break up the medical union. They issued, I am assured, a circular to this effect, pointing out that the colliery surgeons had given a great deal of trouble and hoping that united action would be taken against the medical union, otherwise the existence of the medical union would augment the price of coal. When after this the solicitor of the Midland Medical Union explained to me that the union had not ventured to send out printed circulars to the consultants of the neighbouring towns inviting them not to consult with Dr. Crawford and Mr. Farman, lest in doing so they should come under the Taff Vale decision, I began to wonder whether I was dealing with labour politics instead of professional matters. If medical men are to come under the Taff Vale decision and are to be accused of increasing the price of coal we shall next hear that some learned physician has been arrested for picketing and sentenced for intimidating. But, if that be so, then perhaps the colliery owners have by their circulars also laid themselves open to prosecution. The colliery owners seem to have interfered with the management of a provident fund and the result is that two medical men have been deprived of their means of subsistence. If, as some witnesses assert, intimidation was used there may be just cause of complaint. The Midland Medical Union has retorted by ostracising the two imported medical men, and when the union published the facts of the case it received a lawyer's letter threatening an action. The same sort of letter was addressed to the owner of a local newspaper and to the editor of the *Medical Press and Circular*. But nothing further was done, though the apology asked for was not given.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Death of David Little, M.D., F.R.C.S. Edin.

THE death of so distinguished a member of the medical profession in Manchester as Dr. Little is felt as a great loss, not only by his colleagues, but by a large section of the public. The staff of the Royal Infirmary has within recent years suffered much loss from death, and though the vacant places are worthily filled the old faces are missed. Born in 1840 at Lockerbie Dr. Little has been taken while still in his prime. He qualified for his degree two years before he came of age and had to wait till 1861 before he could receive it. The occasion of his coming to Manchester was his successful application for the post of house surgeon and secretary to the Royal Eye Hospital. He afterwards (in 1867) became one of the honorary staff and in course of time the senior surgeon, devoting himself to the work of the hospital for a long series of years. He lived to see the completion of the splendid building in Oxford-road, which is a great contrast to the modest quarters in South Parade which served as the Eye Hospital when he first came to Manchester. In reference to this association his words were that "his connexion had been a full and uninterrupted work of interest with a great balance of happiness to himself." In 1882 he was appointed ophthalmic surgeon to the Royal Infirmary and lecturer on ophthalmology at the Owens College, which positions he resigned in 1900, and the following year he was elected President of the Ophthalmological Society of Great Britain—"an honour which," as a local notice of his death says, "he was almost too modest to accept, but which, nevertheless, he was very proud to hold as the highest distinction of his profession." No doubt it was gratifying to him to have this proof that his quiet, unobtrusive, but valuable work was appreciated by those best able to judge. He married in 1877 and died on Nov. 27th, after a long illness, leaving a widow and family of two daughters and a son. The recollection that will most commonly remain with his patients will be that of his great kindness and of the calm yet keen investigation of their condition, which of itself was productive of confidence. At the medical board of the infirmary his sound judgment carried great weight and his loss as a colleague was severely felt.

Hospital Fund.

The annual meeting of the committee of management and friends of the Manchester Hospital Saturday and Sunday Fund was held on Dec. 1st. The report showed a serious fall in the amount of the Sunday collections, the result of the inclement weather on the day when they were mainly made. The amount received this year was £3654 3*s.* 5*d.*, compared with £4214 16*s.* 2*d.* last year, showing a decrease of £560 12*s.* 9*d.* On the other hand, the Saturday Fund showed an increase, being £4171 8*s.* 2*d.* this year, against £3996 in 1901. This was supplemented by the sum of £132 6*s.* 11*d.*, being the amount received by shopkeepers for the use of windows on the occasion of the Royal visit and kindly contributed by them to the fund, so that the net decrease for the year was £252 18*s.* 1*d.* The amount to be distributed will therefore be £7300 as compared with £7600 last year. The weather on the second Sunday in February, when the collections have been made, has often been so inclement as to cause serious diminution in the amount received, and it has been carefully considered whether it would not be well to have them in June, but the committee has decided to make no change next year.

The Infirmary Sites Question.

A special meeting of the new board of management of the Manchester Royal Infirmary was held on Dec. 1st, Mr. John Thomson being in the chair. The chairman read a letter from the Principal of the Owens College formally offering the Stanley Grove site for a new infirmary. The total area of the property is 12 acres, 2 roods, and 27 perches. The Cancer Hospital occupies 5573 yards and the authorities of the Southern Hospital have a covenant to build within a few years on land which extends over 12,176 yards. Two committees were appointed, one to inquire and to report (1) whether the Stanley Grove site is the best available; and (2) if so, to report fully on that site and the portions of the estate allotted to the Southern Hospital and the Cancer Hospital, and also upon the property adjoining. The other committee is to report on the legal position of the trustees with regard to the Piccadilly site before entering on negotiations for its sale. The committees are not expected to give in their reports until the end of the month.

Dec. 2nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Newport Medical Society.

AT the meeting of the Newport Medical Society held on Nov. 26th Dr. J. Howard-Jones, the medical officer of health of Newport, opened a discussion upon epidemic diarrhœa, and as Newport is practically a town provided with water-closets the particulars which he gave of the local incidence of the disease are of very considerable interest. During the seven years 1896-1902 the death-rate from diarrhœa in Newport has averaged each year 1·07 per 1000; in 1899 the rate was as high as 2·53 per 1000, and in the present year it will probably be below 0·50 per 1000. More than 75 per cent. of the deaths occurred in the third

quarter of the year and there was a very distinct relationship manifested between the temperature of the earth at four feet below the surface and the number of deaths registered as due to the disease. About 80 per cent. of the deaths were among children under one year old and 11 per cent. of those who died under nine months old were said to have been fed entirely upon mother's milk. Dr. Howard-Jones stated that he had never had a case of epidemic diarrhœa among the patients at the Newport Fever Hospital where all the milk they consume is sterilised, while among the staff who do not habitually use sterilised milk attacks of diarrhœa are not at all uncommon. It is of interest to learn that those localities in Newport where houses have been erected on made ground, which is ballasted with town refuse, are more severely affected with cases of diarrhœa than those parts where the soil is not polluted, and that streets with steep gradients which are washed naturally by rainfall show a marked freedom from deaths from this disease, the one exception being a district where there are many stone drains and sewers which receive the drainage from an old cemetery. It is satisfactory to find that the Newport corporation has at last appointed a female health visitor[1] whose services ought to be of the greatest assistance to the medical officer of health in his endeavours to lessen the amount of infantile diarrhœa in the town.

Incorporated Society of Medical Officers of Health.

In his presidential address delivered before the West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health at Cardiff on Nov. 27th Dr. Richard Prichard dealt at some length with the question of the prevention of infectious disease from the point of view of paying attention to the unsatisfactory condition under which so many persons of the poorer classes are housed and having especial regard to the evil influences of impure air in badly ventilated bedrooms. He expressed the opinion that much could be done by improving these conditions to strengthen the phagocytes or "defensive proteids," so that the system might be able to resist infection or at least to such an extent as to prevent a severe or malignant attack, for he considered that the conditions which produce malignancy are identical with those which conduce to an attack of the disease. Numerous instances were given by Dr. Prichard of the malign influence which prolonged residence in an overcrowded house has upon the course of an attack of scarlet fever, and as it is quite impossible to insure the ventilation of sleeping rooms at night he urged that instruction in this subject should be given in public elementary schools and also that medical practitioners should lose no opportunity of impressing upon their patients its great importance. In the course of a discussion which followed the reading of the address Mr. Ebenezer Davies, medical officer of health of Swansea, said that it was impossible to labour the question of ventilation too much as it was one of the most important factors in the spread of infection, but the means of ventilation and the use of ventilation were two very different things. Mr. Davies said that in his experience the earlier periods were the most fatal in epidemics of cholera, small-pox, and diphtheria, indicating attenuation of the virus as the disease progresses.

Royal United Hospital, Bath.

The annual meeting of the Ladies' Working Association connected with the Royal United Hospital, Bath, was held on Nov. 22nd. The report showed that 1180 articles had been made for the patients during the past 12 months, the value being estimated at £200. The sum of £70, which had been collected by some of the ladies, was handed to the President of the hospital (Rev. E. Handley) towards the support of the children's ward.

Dec. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Medical Institute, Belfast.

ONE of the most pleasing features of the vice-regal visit to Ulster was the opening by the Viceroy of the Belfast Medical Institute. This beautiful building has been erected and furnished by the generosity of Sir William Whitla, and it is vested in the hands of seven medical trustees for the use of the Ulster Medical Society. The building contains a library, reading-room, lecture-hall, dining-room, billiard-room, and smoking-room. Shortly after midday on Nov. 26th Lord and Lady Dudley arrived at the Institute and were met at the main entrance to the building by Sir William and Lady Whitla. On reaching the lecture-room, where there was a large assemblage of medical men from Belfast and the neighbourhood, the chair was taken by the President of Queen's College, Belfast, who referred in graceful terms to Sir William Whitla's generous gift. That gentleman having replied and having handed over the trust deeds to the incoming president (Dr. John Campbell), Lord Dudley said that it was his duty to declare the building open. His lordship referred to the many services which Irishmen had rendered to the profession of medicine and after votes of thanks had been passed to their excellencies and to Sir William Whitla the ceremony terminated. In the afternoon Lady Dudley unveiled the memorial window to Mr. William Smyth of Burton Port who died on Nov. 19th, 1901, from typhus fever contracted in the discharge of his professional work on Arranmore. The only man who dared to help him, Dr. Brendan MacCarthy, is also commemorated in the window.

Ulster Medical Society.

The annual dinner of the Ulster Medical Society was held on Nov. 27th in the new Medical Institute, Belfast. The chair was occupied by the President, Dr. John Campbell, and, including guests, there were about 100 gentlemen present. After dinner, during which a select programme of music was performed, the President having proposed the toasts of "The King," "The Queen," "The Prince and Princess of Wales and the other Members of the Royal Family," and "The Lord Lieutenant and Prosperity to Ireland" (to which the High Sheriff of Belfast, Alderman Lawther, D.L., replied), Dr. A. Dempsey gave the toast of "The Donor of the Institute," referring to the great gift bestowed on the medical profession, to which Sir W. Whitla replied. The next toast was "The Memory of Mr. W. Smyth," proposed by Sir W. Whitla, which was drunk in silence. "Our Guests" was proposed by Professor J. A. Lindsay, to which Sir James Henderson, D.L., Dr. Brendan MacCarthy, who had been so much associated with Mr. Smyth in his heroic work, and Mr. H. Warnock replied. Mr. Warnock, who had attended the late Mr. Smyth, said of him that he was

> "One who never turned his back but marched forward—
> Never doubted clouds would break,
> Never dreamed, though right were worsted, wrong would triumph,
> Held we fall to rise, are baffled to fight better,
> Sleep to wake."

The last toast, "The President," was proposed by Sir Thomas Myles, and Dr. Campbell having responded, the proceedings terminated with the National Anthem.

Health of Belfast.

From the report presented to the city corporation on Dec. 1st for the period between Oct. 19th and Nov. 15th, 1902, it appears that 330 cases of zymotic disease have been notified—113 cases of scarlet fever, 82 of typhoid fever, 50 of simple continued fever, 46 of erysipelas, 20 of diphtheria, 16 of membranous croup, and three of puerperal fever. The death-rate from all causes was 21·4 per 1000, which is not very high. The number of cases of typhoid fever, as well as the deaths therefrom, have decreased considerably during the past month and the decrease still continues. The outbreak of scarlet fever, which is confined to one district, is decreasing and in 113 cases reported there were only three deaths. Measles has been very prevalent during the month and appears to have been attended with a great amount of fatality. The medical officer of health says in his report that he has no means of knowing the number of cases, but on inquiry from the medical officers in whose districts the disease was most prevalent he found that not only were the cases numerous but that the disease was of a severe type, the mortality being mainly due to pneumonia.

Cork Hospital Aid Society.

Two years ago the Cork Hospital Aid Society was established for the purpose of making an annual collection in the county towns for the benefit of the city hospitals. At a meeting held on Nov. 29th the honorary secretary announced that after deducting expenses this year's collection realised a little over £500 which was available for distribution. The

[1] THE LANCET, August 2nd, 1902, p. 317.

following allocation was accordingly made: North Infirmary, £90; South Infirmary, £90; Mercy Hospital, £65; Victory Hospital, £70; Eye, Ear, and Throat Hospital, £55; St. Patrick's Hospital, £35; Erinville Hospital, £35; Fever Hospital, £25; Maternity, £10; and Queenstown Hospital, £27. A vote of thanks to the lady collectors brought the proceedings to a close.

Dec. 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Schools of Nursing for the whole of France.

THE Minister of Instruction has just sent out a circular to all departmental prefects inviting everyone to bring about as rapidly as possible a school of nursing in his district, in accordance with the terms of the law of July 15th, 1893. At first sight it appears remarkable that a decree of Parliament should have remained a dead letter for nearly ten years. The reason is that except in Paris and other large towns there seems to be no very special need for such schools and that the deputies who voted for the foundation of such schools forgot at the same time to vote the necessary grants in aid for their upkeep. Nursing schools are doing admirable work at Paris and at Lyons where there are large hospitals and many patients—in a word, they have grown where they were required in accordance with the physiological law that where a function is necessary there also is an organ to carry it out. In the smaller towns, however, where the hospitals are quite unpretending establishments, mostly founded by religious houses and worked by nuns, such schools would be useless. Throughout nearly the whole of France, the care of the sick is in the hands of the Church—that is to say, they are looked after by nuns—and the lay nurse is almost unknown, for very few among them have the opportunity of making a living except in the capital. This accounts for the great difference which is to be observed between the French *infirmière* and the English nurse, for the former is drawn from a much lower social stratum and is little more than a servant with a certain amount of professional training. Even if schools were started in every department to turn out numbers of nurses of this type there would be but little result, for there would not be enough work for them all. The real reason of the sudden anxiety of the Minister regarding this slumbering law is, as always, a political one. The expulsion of the teaching religious congregations has been accompanied by lively protests on the part of the populace and the Minister in charge of the Bill has been obliged only to expel those congregations who look after schools and to give out that those who concerned themselves with works of charity would be let alone. He hoped by this means to allay the fears of the sick and infirm who were cared for by the sisters and who if they had to leave their present quarters would have nowhere to go except the street. It is quite evident, however, that the expulsion of the hospital sisters is only put off and that the only object of the creation of a large body of lay nurses throughout the country is eventually to make these take the place of the nuns. It is not so easy to found these schools, for teachers for the pupils have to be found. The Minister in the above-mentioned circular informs the prefects that as there are no funds to pay the teachers every prefect should ask the medical men in his district to give gratuitous instruction, and it is implied that payment will be made by the medium of distribution of offices and of decorations.

The Fight against Congenital Debility.

Professor Budin, who for many years has given his attention to lessening the evils of congenital debility, has this year devoted his opening lecture to this subject. The statistics and the conclusions at which he has arrived are founded on observations made by him in the wards allotted to the treatment of feeble children at the Maternity Hospital, where he has had every opportunity of studying the matter. Of all causes of death chill is the most dangerous, or, at least, the most widely spread. The child's temperature may fall to 33·5° C., to 32° C., or even lower. Among those children whose temperature falls below 32° C. the mortality is 98 per cent., if at the same time the weight falls below 1500 grammes; 97·5 per cent. in those whose weight is between 1500 and 2000 grammes; and 75 per cent. in those whose weight is over 2000 grammes. When the child's temperature ranges between 32° and 35·5° C. the mortality for the three groups of children according to weight is 97·3 per cent., 85·6 per cent., and 67 per cent. Mistakes in feeding are also the cause of many deaths, either from gastro-enteritis when too much milk is given or from circulatory failure (*cyanose*) when too little milk is given. The feebleness of the patients also makes their powers of resistance to infectious diseases very low and from such they often die. The mean mortality of all the feeble children is 60 per cent., and this does not include children brought to the hospital dead or dying, of whom there is a great number. At the *clinique* in the Rue d'Assas the proportion of children born feeble is 10·6 per cent. For preventing the onset or the evil effects of chill Professor Budin relies on an incubator kept at a temperature of 25° C., or on warm baths of which the temperature is gradually raised. He has formulated a set of rules for feeding by which every child gets a certain quantity of milk, varying according to his age and weight. All "suspects" are carefully isolated to preserve others from infection. Even with all these precautions, out of 657 feeble children 79 died within the first 48 hours. Leaving out non-viable children there remain 589 premature children, of whom 90 per cent. left the hospital alive, which brings the mortality down to 10 per cent. At the Charity Hospital M. Maygrier, using the same methods of treatment, arrived at almost the same figures—namely, 11·5 per cent. Out of 66 older premature children brought up on Professor Budin's plan, one only died and that at the age of five months from broncho-pneumonia—a fact which would appear to legitimise the induction of premature labour from the point of view of the child's life. As a matter of fact, in 26 cases in which Professor Budin has induced premature labour, two children only succumbed, being a mortality of 7·9 per cent.

Dec. 2nd.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Operations for Perforating Ulcers of the Stomach and Duodenum.

AT a meeting of the medical practitioners of the canton of Zürich held at Zürich on Nov. 18th Dr. Brunner gave an instructive *résumé* of 350 cases of ulcer of the stomach and 77 of ulcer of the duodenum. These were all the cases of which he had been able to find any record and nearly two-thirds of them had been reported by English surgeons. America and France followed in order of sequence. Dr. Brunner inferred from these cases that gastric ulcer was tolerably frequent in these countries. The ratio of males to females was one to four in gastric ulcer, but nine to one in duodenal ulcer. The majority of cases of gastric ulcer were found in females between 15 and 20 years of age, but cases of duodenal ulcer were evenly distributed over all periods of life. The site of the ulcer when noted was found in 263 cases to be on the anterior wall of the stomach and in 40 cases only on the posterior wall. With regard to the symptoms, an acute onset with very severe pain was recorded in every case. In 87 per cent. of the cases the pain was localised in the region of the stomach. In cases of ulcer in the duodenum the pain was often localised in the region of the appendix, which might lead to false diagnoses. Vomiting, followed by considerable contraction of the muscles of the abdomen, was generally present. The percussion note over the liver was resonant in half of the cases, but sometimes small areas, dull on percussion, were found in abnormal places on the abdomen from 10 to 20 hours after the first onset of symptoms. The respiration was of the pure costal type and the abdomen was distended. Some 90 per cent. of the patients said that they had previously suffered from symptoms of gastric ulcer for an average period of three and a half years. Without operation only 5 per cent. of the patients recovered, whereas in cases operated upon 51·5 per cent. recovered. This high percentage, however, referred to the total cases reported and not to the total cases operated upon. Cases which ended fatally were probably less frequently recorded than successful ones. Of the cases of ulcer of the duodenum only 17 per cent. recovered, while 83 per cent. succumbed after operation.

The "Physical Health Societies" and the Medical Profession.

During the last ten years a movement against the medical

profession, chiefly inaugurated by German agitators, has been steadily gaining ground. Physical health societies so-called ("Naturheilvereine") have been formed all over Switzerland, and to give one single instance, the largest of these societies in Zürich, a town of 150,000 inhabitants, has 2000 members recruited from all grades of society, but more especially from among the poorer and least educated classes. The members of these societies are for the most part vegetarians and hold some curious "fads" with regard to food. They profess their abhorrence of coffee, tea, and alcohol and they will only be treated in illness by "natural physical methods." These methods include the application of water in every form, light, air, sunshine, electricity, and massage which in some cases takes strange forms. The open air treatment, which is used by both healthy and sick in the form of so-called "air baths," is indulged in during the summer months in an almost Adamite costume. In fact, there is every reason to suppose that a certain percentage of the members, and especially the leaders, of these societies have lost their mental balance. The societies have their own lay "doctors" who are every now and then fined for illegal practice, but of late they have found one or two duly qualified medical men who agree with their *outré* opinions. They hold many meetings and give many popular lectures where the medical profession, and the pharmaceutical chemists, as may be easily supposed, fare badly. However, they have so cleverly spread their ideas and so increased that they are doubtless a factor with which the medical profession will have to reckon. By associating themselves with the various existing "Kneipp" societies they are trying by popular vote to alter the Swiss law with regard to medical practice so that any layman may practise the art of healing provided he prescribes no "poisonous" drugs, but only applies that which nature puts at his command in a simple and innocuous form. From what is already known of the practice of the uneducated quacks who appear before the legal authorities and are mulcted in small fines one can easily perceive the harm which such a law would do both to the public and to the profession. At the meeting of the medical profession of the canton of Zürich on Nov. 18th resolutions were adopted with the object of forming a committee of 15 medical men, distributed over the different districts, who will undertake the work of presenting the facts of the case to the public in their true light. It is to be hoped that these steps will succeed in convincing the voters in the canton of Zürich.

Zürich, Nov. 28th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Domestic Cholera Precautions.

AN experience of three cholera epidemics in an oriental country justifies one in prescribing what personal precautions should be taken by a careful individual who wishes to avoid all risk of catching the disease. All water and milk must be boiled and afterwards kept carefully free from possible contamination by native servants. The boiled water can be made more palatable by pouring it several times from one jug into another. Boiling is a safer remedy than even such good filters as the Berkefeld and the Pasteur-Chamberland. No mineral water can be permitted unless it comes from Europe or from a factory where the water is all distilled and kept free from danger later. Ice must be eschewed by the careful person because it, or the blankets wrapped round it, or the carts conveying it, might easily introduce cholera. A few weeks ago I drew attention to the fact that ice boxes in private houses might be found teeming with cholera bacilli. Unfortunately, an epidemic generally comes in hot weather and drinks must therefore be cooled by an external application of ice. Butter is eaten by most people who carefully boil their milk because they forget that butter may be a vehicle of infection. People must either go without butter altogether, which is a serious deprivation, or eat a kind imported from Europe, or sterilise the local article by standing it in a covered jar surrounded by boiling water which should be allowed to simmer for two hours; the jar should then be put on ice and the butter beaten with an egg whisk until it becomes solid again. All fruit and vegetables must be cooked and therefore no raw salad is allowed. Those who want "to make assurance doubly sure" treat their bread when it comes home from the baker by cutting off the crust, damping the crumb, and then rebaking it in an oven, but this precaution is very exceptional. There have been many deaths in Egypt and in India among Europeans who have been infected by their native servants. The only way to prevent this is to compel the servants to sleep on the premises. If they are allowed to go home they are capable of sitting up all night with a choleraic friend or relative and then bringing the disease to their employer's breakfast table. There is, however, one member of the household who must be allowed access to the bazaars and markets and that is the cook. The best way to minimise danger from him is to compel him to wash his hands with soap, nailbrush, and sublimate lotion every morning before he returns to the house. One can soon get accustomed to all these troublesome details and they are worth the trouble of mastering. Those who come in contact with cholera patients or dwellings will obviously not neglect to wash and to scrub their hands and nails with antiseptics, but it is well for them also to wash the face and to rinse out the mouth before taking food.

The Cholera Question.

The precautions mentioned above are no longer necessary, fortunately, for the epidemic is practically over and the whole country from Alexandria to Wady Halfa only furnishes about half a dozen cases a day. This is as different as it can be from the state of Egypt two months ago, when the daily bulletin showed about 1700 cases, besides, perhaps, an equal number which were not reported. Sir Horace Pinching and the sanitary department generally deserve great credit for the resourceful way in which they have fought the enemy. Hospitals have been sent out to the provinces from headquarters for more than 3000 patients and in Cairo, besides the usual infectious hospital, a special cholera building was used in Boulak and patients were received for a time during the holidays in the Nasrieh boys' school. When urgency required it, tents were used as temporary hospitals, but these were replaced as soon as possible by huts made of mats or reeds. The chief disinfectants relied upon were sublimate lotion, sent out in a concentrated form (one-fifth), and a mixture of soap and carbolic acid, resembling lysol. But the most important question in Egypt, now that money is forthcoming for necessary purposes, is that of English sanitary inspectors. The native medical men work splendidly under Englishmen, but cannot be expected to cope alone with their countrymen who firmly believe in superstitious rites and are thoroughly convinced that if a patient goes to the hospital he will be poisoned there by the medical officers. Considering that this idea is firmly rooted in the ignorant peasant's mind, it is very wonderful that he ever submits to any sanitary interference. In the epidemic of 1883 there were no English inspectors in the Government service, though England sent eight medical officers and India sent another eight to try to deal with the cholera for a month or two. When the outbreak of 1895 arose there were only two English medical officers in the sanitary department, though others were at once borrowed. Now there are seven permanent medical officers, three extra helpers, and, of course, until last month a great body of medical and lay workers were temporarily employed. But the permanent staff is not yet big enough to deal with the perennial questions of cholera and plague and it must be strengthened further if Europe wishes to be protected from these two ills. The sanitary department to-day is not strong enough to cope with these two diseases and therefore is obliged to postpone dealing with numerous questions of hygienic necessity, such as pellagra, ankylostomiasis, bilharziosis, tuberculosis, malaria, leprosy, &c. Egypt is infected both by plague and cholera from the Hedjaz and returning pilgrims. England shrinks from grasping the nettle and from making Egypt forbid the pilgrimage for one year. Surely France or Germany would have done so long ago. Preparations for next year's pilgrimage are already in hand and in a fortnight we shall have entered into the month of fasting—Ramadan. To-day there are only 17 cases of cholera under treatment in all Egypt; the quality of the disease seems to be a good deal attenuated and for the last month cholera has not been interesting enough to talk about.

Prospects of the Winter.

The Cairo season has now begun with the autumn flower show, entertainments in honour of Lord Kitchener, and the opening of the new museum of antiquities, which will be one of the chief attractions to visitors. The hotels are now all ready and confidently expect a good season, while the tourist agents report that many visitors have announced their intention of visiting Egypt on their way home from the durbar in India.

Nov. 16th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Disease in the Philippines.

THE last report of the United States Bureau of Health for the Philippines shows that disease has been peculiarly rampant there since the commencement of the current year. The death-rate of Manila for the month of May was 65·81 per 1000, and among the native Filipinos was 83·24 per 1000. This includes deaths from all causes. Of the 1547 deaths which occurred in May 445 were the result of Asiatic cholera, and in addition 112 "transients" succumbed to the same disease. The death-rate among Americans was 27·34 per 1000. Between May 18th and June 7th cholera greatly decreased. The population of the city of Manila is estimated by the health department at 302,154. In 1900 the death-rate for May was 35·21 per 1000; the next year it increased to 43·44; while this year it was 65·81. The report for the provinces shows that between May 15th and June 18th the total number of cases of cholera was 2120 and the mortality 1565. In the city of Manila both beri-beri and tuberculosis showed a decided increase and the fatalities from these two maladies were numerous. The cases of leprosy reported in the various provinces of the Philippines were 3063. The number of male lepers is stated to be nearly double that of the females—2092 cases are adults and 171 children; of the total number of victims 1097 are married. Most of the cases are among the Filipinos, there being but 43 Igorrotes and 220 Moros lepers. The health department has been especially active in sanitary matters in Manila. In May 262,500 houses were inspected and 123,092 re-inspected, and 31,242 were cleaned. The destruction of rats was also carried on in an energetic manner and on a widespread scale. Vaccination was strictly enforced among the natives. In the city of Manila more than 20,000 persons were vaccinated in May and 64,000 vaccine points were issued.

The Canteen in the United States Army.

It is reported that General Carbin, the adjutant-general of the United States army, in his annual report shortly to be published, will express himself very strongly in favour of the re-establishment of the canteen in the United States army. The statement has also been made that Senator Root, Secretary of War, is firmly resolved to use his endeavours to the same end. A large number of general officers have given as their opinion that the abolition of the canteen in the army was a grave error and that the health and morals of the soldiers have suffered thereby.

The Public Baths of New York.

Dr. Simon Baruch, to whom New York is chiefly indebted for the establishment of a public bath system, has recently returned from a tour in Germany undertaken for the purpose of inspecting the public baths in several of the large German cities. Dr. Baruch, while admiring the progress made by Germany in the construction of baths, is of the opinion that when the scheme for providing bathing facilities mapped out for New York city is carried to completion this city will have the finest system in the world. In the meantime, however, it may be said that the construction of baths in New York seems somewhat to hang fire. There has been from the commencement tiresome and avoidable delay in providing sites for, and in erecting, the aforesaid establishments. No city of the civilised world needs opportunities for cleansing its population more urgently than does New York. Moreover, in New York there are no public washhouses where for a small sum indigent persons can wash dirty linen and clothes. New York and other American cities, in this respect, with advantage might take example by London, Liverpool, and other large British centres of population rather than by the cities of Germany.

Nov. 28th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Lunacy Matters.

THE annual report of the Inspector-General of the Insane for New South Wales for the year 1901 shows that the number of insane in the State at the end of the year was 4488, the increase during the year being 92. The proportion of insane to the general population was 1 to 307. There were 848 admissions, which number was larger than that for any previous year except 1900. Of the total number 51½ per cent. were natives of the State, 10½ per cent. came from other Australian States, 17½ per cent. from England, 11½ per cent. from Ireland, 3½ per cent. from Scotland, and 5½ per cent. from other countries. There were 10 admissions from places beyond the State, the cost of maintaining whom was recovered from those responsible for their arrival in the State. The number of patients discharged was 398, or 46·93 per cent. of the admissions and readmissions. The recovery-rate was very satisfactory and was well over the average for the past 10 years. The number of patients discharged on probation or granted leave of absence to the care of friends was 322, and of these 184 were discharged recovered and 125 were returned to hospital. The deaths numbered 292, or 6·83 per cent.—a slight increase on the average. The number of escapes was 51 and all but five were re-captured. Of the five still at large none was of the dangerous class. There were 23 accidents, of which three ended fatally. Four cases of suicide occurred. The need for early provision of further hospital accommodation had become more pressing since the last report. The course of erecting a new hospital on the land reserved for that purpose at Orange for patients from the western districts was again urged. Further delay in providing accommodation meant risking overcrowding and consequent injury to those treated. In addition to new hospitals increased accommodation was necessary at some of the existing institutions, especially at Gladesville, where admission wards and a hospital for acute cases were urgently required. The rooms were small and insufficient in air space and the wards were inclosed, so that patients were confined more than was desirable or conducive to their recovery. During the past year three medical officers had left by transfer to other departments and the applications for the positions were so few that it was found impossible to fill them. During the year five temporary officers had been appointed and for nearly six months one or two positions were absolutely vacant. The small remuneration offered was probably the reason for the disinclination of medical officers to join the lunacy service and in even the higher-paid positions the remuneration was less than a medical man of ability might fairly expect to earn in private practice. The educational part of the routine at Newcastle had gradually become so prominent that a separation of the children capable of receiving instruction in a school within the hospital was justified. So far the work had been undertaken by the matron and nurses, but it would be wise shortly to add a trained teacher to the staff. The Reception House for Insane at Darlinghurst served a useful purpose and arrested many cases which should not be treated in hospitals for the insane. In the absence in different centres of reception houses the local gaols were utilised, but for sentimental reasons this was objectionable and it was suggested that local hospitals might in many cases be useful and desirable. Dr. F. Norton Manning, formerly Inspector-General of the Insane in New South Wales, has furnished an interesting report on the employment of female nurses in hospitals for the insane. He stated that female nurses had been appointed in the wards for feeble, aged, and demented patients at Parramatta Asylum and their appointment had so far been justified by the results. When the nurses had become more accustomed to their work and some changes which the medical officers had in contemplation were carried out the benefits to the patients would be even more apparent. At the same time the employment of female nurses in the care of male insane patients was, at all events so far as New South Wales was concerned, in an experimental stage. The medical superintendent, in introducing the change, appeared to have been almost over-careful in guarding against any offence to the nurses in carrying out their new duties and they might be called on, without any sacrifice of modesty or self-respect, to do more for the patients than they had as yet been asked. It was well known to all who had experience with insane men that they were frequently better behaved with women than with those of their own sex, and that even when the mind was much astray they retained much of the deference for, and courtesy to, women which were natural. It did not appear that, with properly selected patients and under proper restriction the nurses would be subjected to anything calculated to offend any true woman

who had chosen nursing as her calling or that any injury to the institution was likely to arise.—The state of affairs at the metropolitan asylums at Melbourne remains *sub judice*. The Minister informed Dr. W. Beattie Smith that the executive council had accepted his (Dr. Smith's) resignation and Dr. Smith replied that the official correspondence showed that while he sought to have determined the question of whether the service should be properly conducted or whether the terms of his retirement should be considered he had not actually tendered his resignation. "At the same time," he said, "great as is my interest in the special work to which I have devoted nearly the whole of my professional life, I have no desire to press my services on the State nor to hold office without the confidence and support which are essential to the proper fulfilment of its duties." The executive council appointed Dr. J. A. O'Brien, the Government medical officer, as acting inspector-general of insane in place of Dr. Smith. Dr O'Brien immediately suspended Dr. Stuart Macbirnie, "the medical officer" for alleged misconduct, and drew up a series of charges against him, according to the provisions of the Public Service Act. The public service commission then appointed a board with a police magistrate as chairman to investigate the charges. The board has held several meetings, at which Dr. Macbirnie has been represented by counsel. Very much the same evidence has been given as at the inquiry held by Dr. J. W. Springthorpe. Dr. Macbirnie's counsel at the outset accused the chairman of the board of bias and stated that there was conspiracy on the part of Mr. McCreery, Dr. Smith, Dr. Mullen, and others to put Dr. Macbirnie out of the service. The charges against Dr. Macbirnie were to the effect that on April 21st last he was under the influence of liquor and unfit for duty; that he had created a disturbance in the precincts of the asylum; that the use of alcohol or drugs, or both, by him had necessitated prolonged leave of absence; that he had absented himself from duty contrary to the request of the superintendent on April 23rd last; and that his conduct was subversive of discipline. The board is still sitting.

Actions against Professional Men.

At the last sessions of the county court, Melbourne, two actions against medical practitioners for alleged negligence were listed. In both cases the plaintiffs, however, failed to put in an appearance and the cases were struck out, with costs. The first case was brought by a patient against Mr. Honman, of Williamstown, for £1000 damages for alleged unskilful treatment in the performance of an operation for hysteropexy. In the second case a hospital patient claimed £2000 damages from Mr. G. A. Syme, for alleged unskilful performance of an operation for saddle nose by the subcutaneous injection of paraffin. In both cases the plaintiffs made overtures for settlement but the surgeons stood firm and declined to be blackmailed. In both cases the plaintiffs are impecunious and the defendants will have to pay their own costs. The case against Mr. Syme was first brought in the Supreme Court but was remitted to the county court as the plaintiff was unable to show that he had means. The plaintiff also alleged that the operation was "an experiment" which was not justifiable.—At the Metropolitan District Court, Sydney, two actions were brought against Mr. P. J. Daly, dentist, for the recovery of £200 damages for alleged negligence in the extraction of a tooth. He used cocaine and the extraction was followed by swelling of the face and jaws. The judge, in delivering judgment, said the evidence showed that the swelling which followed in each case was not due simply to the extraction of the tooth nor was there any impurity in the cocaine solution used, and, on the whole, the evidence showed that sufficient care had not been taken in sterilising the syringe and that that might have caused the swelling. The professional witnesses were hopelessly at variance, but making the best of the evidence it seemed to him that septic inflammation caused by imperfect sterilisation of the syringe was the cause of the trouble, and he found for the plaintiffs in each case for £15 damages.

Obituary.

By the death of Mr. Alfred W. Finch Noyes the Riverina district has lost its most notable medical practitioner who, by his professional ability, his genial disposition and untiring efforts, especially to alleviate the sufferings of the poor, endeared himself to all classes of the community. He was born near Salisbury, England, in 1835 and was educated at Marlborough School. He subsequently became a student of medicine at St. Bartholomew's Hospital, London, succeeded at an early age in passing his examination and in obtaining his degree, and at the age of 22 years was placed in charge of a transport conveying troops from England to India at the time of the Indian Mutiny in 1857. It was his intention to accept a permanent medical commission in the army, but after his visit to India he decided to come to Australia. On landing in Melbourne in 1859 he thought the prospects of the country so good that he determined to settle there, accepting the appointment of medical officer in charge of the Deniliquin Hospital. He reached Deniliquin in 1859 and soon had an extensive local practice and was for a time in partnership with Mr. E. Wren who is now living in retirement at Wagga. Mr. Noyes took a great interest in public matters concerning the welfare of the town and three years after the formation of the municipality in 1871 was elected as an alderman and was returned as one of the ratepayers' representatives at each successive election up to 1885, when he resigned. He was held in high esteem by his fellow aldermen, who showed their appreciative regard for his administrative abilities by electing him to the mayoral chair in 1874, 1878, and for a third time in 1880. He was one of the oldest justices of the peace in Riverina and for many years held the position of district coroner. He was a member of the licensing bench and of the old age pension boards, gaol surgeon, and Government medical officer, and at various times has been a member of nearly every local public body. In the affairs of the Deniliquin Jockey Club he took a keen interest and was on the committee for many years, while on several occasions he was chairman. His connexion with the local hospital never ceased from 1859 until his death and his last professional work before being stricken with pneumonia was in giving attention to a patient who required his services. Mr. Noyes married in 1861 Miss Annie Hunt Tonilius of Tasmania and leaves a family of seven daughters and one son, Mr. A. W. F. Noyes, F.R.C.S. Edin., who is practising his profession in Melbourne.—Just as Mr. Noyes was identified with Deniliquin and Riverina so was Mr. W. H. Syme with Stawell and the western district. About three years ago failing health compelled him to relinquish practice and he steadily got worse up to his death on Sept. 11th. William Holland Syme was the eldest son of the late Ebenezer Syme, who up to the time of his death was a proprietor of *The Age* newspaper. He was born in Glasgow in 1849, was educated in England, and early decided to adopt the medical profession. He obtained the qualification of Licentiate of the Royal College of Surgeons in Ireland in 1868 before he was 21 years of age and came out to Victoria and practised for some years at Eldorado. He then returned to England and after further study in the London hospitals obtained the diploma of Licentiate of the Royal College of Physicians of London in 1873. Returning to Victoria, he settled in Stawell and soon established a very large and lucrative practice. He was for many years honorary surgeon to the Pleasant Creek Hospital and his advice was widely sought as a consultant in the surrounding district. He was extremely popular with all classes of the community and was especially beloved by his poorer patients, as he never spared himself in his professional services to all alike and in all circumstances. His death will be greatly regretted by a wide circle, who esteemed him highly both for his professional capabilities and his personal worth.—Dr. Thomas E. Franklin, once the Government medical officer for the Parramatta district of New South Wales, died recently from paralysis. He was 47 years of age and had been 12 years in the public service, where he was very popular.

Oct. 28th.

BRISTOL HEALTH COMMITTEE.—At the meeting held on Nov. 18th Mr. Colston Wintle, L.R.C.P. Lond., M.R.C.S. Eng., was elected vice-chairman of the Bristol health committee.

MAKING A WILL.—At the recent Assizes held at Gloucester much amusement was caused in court by a medical man stating that he had lent to the accused (who was acquitted of a charge of forging a will) a form of will which he always carried in his pocket for use when required.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE seventy-fifth session of the General Medical Council came to an end on Tuesday evening, Dec. 2nd.

The business done by the Council during the session was distinctly valuable and in particular the medical profession will recognise the good sense it has displayed in facing its pecuniary position. We refer in a leading article to some of the features of a new Bill which proposed to set the financial affairs of the Council aright.

In view of cases which we have reported from time to time in our columns we welcome the activity of the Council in its attempt, at the instance of Sir Victor Horsley, to put down personation. The recommendations of the Personation Committee which have been adopted by the Council should prove safeguards to the Medical and Dental Registers.

Our report this week of the proceedings at the Council closes with the adjournment on Saturday, Nov. 29th, leaving for consideration next week interesting debates upon the position of the officers of the Royal Army Medical Corps in respect of diplomas in State medicine, and upon the financial position of the Council.

WEDNESDAY, NOV. 26TH.

The Case of Alfred Hunter Goodwyn.

THE Council proceeded to the consideration of the case of Alfred Hunter Goodwyn, registered as of Budleigh Salterton, Devon, Lic. R. Coll. Phys. Edin. 1888, L. R. Coll. Surg. Edin. 1888, Lic. Fac. Phys. Surg. Glasg. 1888, who had been summoned to appear before the Council in consequence of his conviction for an offence as set forth in the following certificate of conviction :—

These are to certify that at the General Quarter Sessions of the Peace held at the Guildhall, in and for the City and County of the City of Exeter, on the seventh day of April, in the year of Our Lord one thousand nine hundred and two, Alfred Hunter Goodwyn was in due form of law convicted upon his own confession on certain indictments against him for having on the 24th December, 1901, feloniously stolen three diamond and pearl brooches and one gold brooch of the goods and chattels of John Eliett Lake and John Henry Lake; on the 2nd January, 1902, feloniously stolen four gold signet rings of the goods and chattels of Albert William Bruford; on the 7th January, 1902, feloniously stolen two gold rings and three gold brooches of the goods and chattels of Frederick Templer Depree, Watson Raeburn, and John Young; and on the 13th January, 1902, feloniously stolen one lady's gold bracelet of the goods and chattels of William Richard Lisle.

And the said Alfred Hunter Goodwyn was upon such conviction sentenced by the court to be imprisoned for the space of four calendar months in the second division.

Given under my hand the sixteenth day of May in the year of Our Lord one thousand nine hundred and two.

GEO. R. SHORTO, Clerk of the Peace.

Mr. HAWKE, barrister, appeared on behalf of Mr. Goodwyn, who he said had gone to Australia on the advice of his relatives. He understood that although his client had been convicted of a felony the Medical Act allowed the Council a discretion as to whether or not his name should be removed from the Medical Register. He invited the Council to show pity to Mr. Goodwyn and not to destroy his professional career. At the quarter sessions Mr. Goodwyn, acting on the advice which he (Mr. Hawke) gave him, pleaded guilty to the charge. In the first place, it was not an offence connected with the practice of medicine. Mr. Goodwyn had been in West Africa in a professional capacity but did not engage in practice on his return. His offence was that within a short period of time he went to certain jewellers and obtained on approbation goods which he, instead of returning, pawned. He was well known in the district and consequently it was easy to identify him, and he was identified and taken into custody. The plea he put forward was that Mr. Goodwyn had suffered from a severe attack of malarial fever and that when he committed this felony he was not responsible for his actions. He had a letter from a medical man who attended his client in West Africa saying that in his opinion he was not of sound mind. In these circumstances he asked the Council not to remove the name from the Medical Register.

The Council, after deliberating in private for a time, announced that it had come to the decision to direct the Registrar to erase Mr. Goodwyn's name from the Medical Register.

The Case of James William Ayres.

The Council proceeded with the consideration of the case of James William Ayres of 111, Farnworth-street, Liverpool, registered as Lic. R. Coll. Phys. Edin. 1874, Lic. Soc. Apoth. Lond. 1876, who had been summoned to appear before the Council in consequence of his conviction for an offence as set forth in the following certificate of conviction :—

I, Sir Herbert Stephen, Baronet, Clerk of Assize for the Northern Circuit, and having the custody of the Records of the Courts of Oyer and Terminer and Gaol Delivery holden in and for the County of Lancaster, do hereby certify that at the Session of Oyer and Terminer and Gaol Delivery held at Liverpool in and for the said County, on Wednesday, the Twelfth day of February, in the year of our Lord One thousand nine hundred and two, before Sir Alfred Wills, Knight, and Sir Thomas Townsend Bucknill, Knight, and others their Companions Justices and Commissioners, assigned to hear and determine divers felonies, trespasses and misdemeanours, and also to deliver the Gaol of the said County of the prisoners being therein, James William Ayres was duly convicted upon an indictment then and there depending of manslaughter and was thereupon ordered for the said offence to be imprisoned and kept to hard labour in His Majesty's Prison at Liverpool for four calendar months, which said conviction still remains in full force, and not reversed or made void. Given under my hand this Eighth day of March, in the year of our Lord One thousand nine hundred and two.—(Sgd.) H. STEPHEN, Clerk of Assize, Northern Circuit.

Mr. AYRES appeared, accompanied by his brother, and stated that he did not propose to call any witnesses. After Mr. WINTERBOTHAM had read the notice served on Mr. Ayres

The PRESIDENT asked the latter if he had any explanation to make.

Mr. AYRES: The only explanation is that it was a case of misadventure.

At the suggestion of the PRESIDENT,

Mr. AYRES then read a statement in defence which had already been circulated to the members. In this it was explained that on Dec. 6th, 1901, at 3.30 o'clock in the afternoon, he was in his surgery when the man whom he was convicted of killing—a man named Baines who had been his manservant and who three days previously had been discharged for drunkenness—entered the consulting-room in a very intoxicated state and declined to leave without being told why he had been discharged. He (Mr. Ayres) ejected him and went after him to give him his hat. As he handed it to him Baines raised his hand. He warded off what might have been a blow with his right hand across Baines's chest and coat collar, and Baines, tripping up, fell on the kerb of the pavement. On being picked up Baines seemed helplessly drunk, but with assistance was able to walk home to his sister's, a distance of 500 yards. There he was placed on the sofa, in a small hot back kitchen, and did not undress or was medically attended for six days afterwards. The parish doctor who first was called in said that he did not think there was much the matter with Baines, but he ordered his removal to the hospital. That was on Wednesday. Death took place on the following Sunday—ten days after the incident. At a post-mortem examination a fracture, not previously suspected, was discovered in the sphenoidal bone, with immensely diseased kidney, very great ulceration of the coats of the stomach, and mitral disease. In the opinion of Mr. Ayres the fracture referred to was produced by a fall off the sofa during the third or fourth day of the man's lying on it. Not during all the time Baines lay at his sister's home was he (Mr. Ayres) aware that the man was ill. At the trial the jury had put it to the judge that there had been the greatest provocation and asked for leniency as regards the sentence. The statement concluded with a strong appeal for reinstatement in the profession so as to save him from what he might term "a living death." He pleaded for the sake of his family, his wife and children, and for himself. He was nearly 60 years old now and had always carried an honourable name, as also had his brother, his father, and his grandfather, all of whom had been members of the medical profession.

In answer to Mr. JACKSON, Mr. AYRES said that the bones of Baines were found to be extremely thin.

Dr. AYRES supported his brother's appeal for reinstatement. He knew his brother to be the most kind-hearted of men and felt positive that he would never have been guilty

intentionally of inflicting the injury that it was decided by the legal tribunal caused the death of Baines.

Mr. WINTERBOTHAM read extracts from a newspaper report of the trial which showed that the judge agreed with the jury in finding the prisoner guilty of manslaughter under great provocation and agreed also to some extent with their strong recommendation for leniency, but he was satisfied that Ayres gave Baines a blow, and if a blow accelerated death by one hour the person who gave it would be guilty of manslaughter: therefore, and notwithstanding that Mr. Ayres had been ten weeks in prison before the trial, he sentenced him to further imprisonment for four months.

After the Council's deliberation on the case in private,

The PRESIDENT announced the decision. He said: I am instructed to say to you, Mr. Ayres, that the Council does not see fit to direct your name to be erased from the Medical Register.

Mr. AYRES: Thank you, sir.

The Case of Edward John Smith.

Consideration was next given to the case of Edward John Smith, registered as of 110, Balsall Heath-road, Birmingham, Lic. Soc. Apoth. Lond. 1883, Mem. R. Coll. Surg. Eng. 1885, who had been summoned to appear before the Council to answer the following charge as formulated by the Council's solicitor:—

That you have been guilty of infamous conduct in a professional respect, the particulars of which are as follows. That you, being a registered medical practitioner, systematically seek to attract practice by a system of extensive public advertisements containing your name, address, and qualifications, and invitations to persons in need of medical aid to consult you professionally, the advertisements so systematically published by you being themselves of a character discreditable to a professional medical man.

Mr. E. J. Smith attended, along with his counsel, Mr. Schultess Young (instructed by Messrs. MacArthur and Chiverton, solicitors).

Dr. BATEMAN, who represented the Medical Defence Union, the complainants, in opening the case said that the advertising in this instance was not on behalf of, or for the benefit of, any institution, but for the benefit of Mr. Smith himself. Circulars or handbills had been distributed which could be issued with only one object—namely, of taking away from other medical men a certain amount of their practice and adding it to Mr. Smith's own practice. He had given Mr. Smith ample opportunity to explain why he was not observing the rules of the profession, but as Mr. Smith had not replied to the communications sent to him by the Medical Defence Union there was no alternative but to bring him before the General Medical Council. At the same time, if after hearing the evidence the Council was of opinion that the facts alleged were proved he would ask them to deal with the case as others had been dealt with, that was to say, postpone further proceedings in order to give Mr. Smith an opportunity to come into line with the rules of the profession. Dr. Bateman proceeded to read an affidavit of several married women in the Edgbaston district of Birmingham who declared that there had been delivered at their houses a handbill bearing Mr. Smith's name and address and offering advice and medicine at his dispensary for a fee of 3*d*. and that the offer had been taken advantage of.

Mr. SMITH, called in his own defence, in answer to Mr. Schultess Young, stated that he had been in practice for six years in Birmingham and he frankly admitted that he had sent out the handbills in question. He had sent out three handbills, not two as the complainants alleged. In November, 1901, he sent out a lot left over from the previous winter offering advice and medicine free. In the following month he sent out a further lot, newly printed, containing a similar offer. That was followed in January of this year by a further handbill, but in this he asked for a fee of 3*d*. All of these handbills had been distributed to the very poorest class of the population, living in the courts and alleys of the Highgate-street district. They had been issued in charity, but the free advice and medicine which he offered brought him so many patients that he was unable to cope with the work, and it was only with the object of reducing the number of applicants that he had inserted in the January bill the fee of 3*d*. He had not issued them for profit and, as a matter of fact, he had incurred loss, not only in outlay of money, but in reduction of his regular and ordinary patients. In issuing the handbills he had no intention to do wrong, his object being entirely charitable. There had existed certain penny clubs—medical aid associations—and he had endeavoured by every means in his power to put these down. He was well-known as an enemy of these clubs, but he could not say that that was the reason why he issued the handbills in question.

In cross examination Mr. SMITH explained that of 500 bills issued in November 143 were presented in order to get the free advice and medicine offered, and of the 1000 issued in December 347 were presented with the same object. The quantity issued in January with the threepenny fee marked upon them was 750. All of them were distributed by charitable societies, to patients visiting him, or by his dispenser, the instruction in all cases being to give them only to the deserving poor. He did not see any of the holders of these handbills at their homes, only at the dispensary. He considered that the issue of the handbills and what resulted from them cost him £20, whereas he had got no more than 150 threepences.

Mr. SCHULTESS YOUNG, in addressing the Council, contended that the handbills had not been issued for the purpose of gain at all. Mr. Smith had not sent out any since January and he would undertake not to issue any more unless the General Medical Council approved of his doing so. In these circumstances counsel hoped the Council would not adjourn the case but would dismiss it entirely that day.

Dr. BATEMAN suggested that Mr. Smith had issued "free" circulars for two years and having got an advertisement from them issued the circular with the threepence marked upon it for the purposes of getting benefit and the Medical Defence Union held that that was infamous conduct in a professional respect.

The Council deliberated on the case *in camerâ* for quite an hour. On the readmission of parties,

The PRESIDENT, addressing Mr. Smith, said: The Council has very carefully considered your case and it has come to this resolution—that the facts alleged against you in the notice of inquiry have been proved to the satisfaction of the Council. And it wishes me to say this further, that in announcing to you this decision the Council has requested me to state that it takes a serious view of your conduct, but in order to give you the opportunity of reconsidering your position it has adjourned the further consideration of the charge until the next session, when you will have to appear and to satisfy the Council of your conduct in the interval.

The Council adjourned.

THURSDAY, NOV. 27TH.

The Council resumed to-day, Sir WILLIAM TURNER, the President, being in the chair.

The case of William Arthur Jones.

Mr. William Arthur Jones, registered as of 120, Albany-road, London, S.E., Lic. Soc. Apoth. Lond., 1893, Lic. R. Coll. Surg. Irel., 1896, appeared, together with his solicitor, to answer a certain charge formulated by the Council's solicitor.

It was decided that the case should be heard in private, and the proceedings in connexion with it lasted for practically the whole of the sitting. On the admission of strangers

The PRESIDENT, addressing Mr. Jones, said: As you know, sir, the Council has gone very carefully into your case and it has come to the following resolution:—

That the Council do now judge you to have been guilty of infamous conduct in a professional respect and do direct the registrar to erase your name from the Register.

The Council adjourned.

FRIDAY, NOV. 28TH.

The Council met again to-day, Sir WILLIAM TURNER presiding.

First Examination of the English Conjoint Board.

Sir VICTOR HORSLEY asked the President why no observations had been received from the Royal College of Surgeons of England and the Royal College of Physicians of London upon the report of the visitor and inspector on the first examination of the Conjoint Examining Board in England furnished to the licensing bodies on Oct. 7th, 1902.

The PRESIDENT said that he was unable to answer this question but the representatives of the two English Royal Colleges were there and perhaps they could answer it.

Mr. BRYANT said that he should have been satisfied if the

answer of the President that he did not know had been accepted because, as the representative of the Royal College of Surgeons of England, he rather objected to being called to account for such a small affair, but as a matter of courtesy he would answer. The letter from Mr. Allen, the registrar, was sent to the Colleges on Oct. 7th. It was remitted to the Royal College of Surgeons on Oct. 16th and since then the matter had been under their very serious consideration and would be reported upon at the very earliest opportunity.

Dr. NORMAN MOORE said he was sure that Sir Victor Horsley would know without his answering that the moment the Royal College of Physicians of London received a report of this kind it would give it its most careful attention. He should like to explain, because it might be useful upon other occasions, what were the methods of his College. The College consisted of about 300 Fellows, every one of whom had an absolutely equal right to take part in all business coming before the College. No business could be settled except in the Comitia of the College when these Fellows had all been summoned. The College met on the last Thursday in October, January, April, and July, and at such other times as it was absolutely necessary to call the Fellows together. This report arrived at the College early in October and it came before the College at its very first meeting. It was a most important and valuable report, most useful not only to the Council but also to the College. It was received with all the respect which it deserved and was being considered with all the care with which such a document ought always to be considered and the moment the remarks of the College upon it were ready they would be forwarded to this Council. He thought he might add that if any special note had been sent, asking the College to reply by a particular date, the College would have put itself to very considerable inconvenience to reply by that date.

Sir VICTOR HORSLEY said that he could not regard the answers as quite satisfactory and he would put a notice of motion on the subject on the paper.

Visitation of Examinations in Chemistry, Physics, and Biology.

Dr. NORMAN MOORE asked the President whether any arrangements were to be made during the present session as to the continuation of the visitation of the examinations in chemistry, physics, and biology held by the several licensing bodies, which on Feb. 26th, 1902, it was resolved to carry out.

The PRESIDENT said that the Council would remember that on the occasion in question several resolutions were passed. The second resolution was to the effect that it was desirable that under the powers given by Section 18 of the Medical Act of 1858 the examinations in chemistry, physics, and biology held by the several licensing bodies should from time to time be visited and reported upon. Afterwards it was resolved that in the first instance the examinations in these subjects held by the Examining Board of the Royal Colleges in England during the present year should be visited by two persons appointed by the President on behalf of the Council and that they should be instructed to report on the scope, standard, and sufficiency of these examinations. Acting upon this resolution he obtained the assistance of Dr. Windle and Dr. Campbell Brown who had reported on the examinations. But he had received no instructions or mandate to arrange for an inspection of the other licensing bodies and he had made no arrangements in that connexion. If the Council wished a specific time to be stated for the visitation of these examinations it must give him instructions.

Mr. BRYANT intimated that he proposed to bring forward a motion on the subject.

The Synopsis in Physics of the English Conjoint Board.

Sir VICTOR HORSLEY asked whether it had been officially communicated to the Council that the synopsis in physics of the English Conjoint Board had been altered.

Dr. NORMAN MOORE said that without notice he could not give the precise date when the alteration was adopted. All regulations with regard to the synopsis and everything else had to be sent to this Council and there was a particular time and way of doing that and he had no doubt it was followed in this case.

The REGISTRAR (Mr. H. E. ALLEN) said that he did not recollect any notice having been received.

Dr. NORMAN MOORE: I should think that the new synopsis is not yet actually in print.

Sir VICTOR HORSLEY: I should like to hear Mr. Bryant's view about that.

Mr. BRYANT: I am not in a position to give a correct answer to that question, not being now on the committee of management.

Sir VICTOR HORSLEY said that his College, the Royal College of Surgeons of England, had issued its annual report and he was surprised to find it stated that a revised synopsis in physics had been adopted after consultation with the several medical schools and would take effect from May 1st, 1903. So the Council would see that the change had already been determined and he was astonished to hear that Mr. Bryant did not know about it. His point was that the Council ought to have received notice.

Removal of Qualification from the Register.

After the Council had sat *in camerâ* for a time the PRESIDENT announced that the Royal College of Surgeons of England, having intimated to the General Medical Council that it had removed the name of George Pearse Sargent from its Membership, the General Medical Council had directed the Registrar to erase from the Medical Register the qualification of Mem. R. Coll. Surg. Eng., 1863, appended to the name of Dr. George Pearse Sargent.

Prevention of Personation.

On the motion of Sir VICTOR HORSLEY, seconded by Dr. MACALISTER, the following was entered on the minutes:—

This final report is furnished by the committee on the prevention of personation in accordance with the following resolution of the Council June 3rd, 1902: "That the Personation Committee prepare for the November session a complete report on the whole subject and submit a series of recommendations on which a decision of the Council may be taken and that the report be in the hands of members of Council a fortnight before the November meeting."

The committee on the prevention of personation was appointed on May 31st, 1899, in accordance with the following resolution of the Council: "That a special committee be appointed to report during the present session on the best means to secure the identification of a person applying to be admitted to the Medical or Dental Register and to prevent fraudulent registration either on first being admitted to the Register or on re-registration. That the whole subject of granting certificates of registration be also referred to the same committee for consideration and report."

The committee duly presented, June 9th, 1899, a report dealing with the whole subject, but this was not put down for consideration until the next session. When brought up, however, for discussion (Dec. 4th, 1899) the matter was again postponed to the May session of the following year. On May 23rd, 1900, when the report was brought up for discussion the debate was immediately adjourned but resumed on May 28th, 1900. The matter was again adjourned to take legal opinion. This was done and an interim report was presented on Dec. 5th, 1900. Further consideration was given to the subject in the Sessions of 1901–02 in committee of the whole Council.

The findings of the Personation Committee as presented in their report and the decisions thereupon of the Council arrived at in committee of the whole Council may now be conveniently summarised.

The report of 1899, after referring to the existence of fraudulent personation of medical or dental practitioners, considered fully the circumstances attendant on the original entry of a name on the registers and primarily the question of identification of the individual seeking to register. The committee proposed for adoption by the Council the principle of determining identity by means of recording the handwriting of any applicant.

This the first recommendation of the committee was ultimately approved by the Council in Committee of the whole Council and has already been found by the branch registrar for England to be of much service, constituting as it does the only means at his disposal of testing the real identity of an applicant. To further strengthen the procedure of the registrars in determining the correct identity of applicants, the committee in their report proceeded to recommend alteration of the existing standing orders by which the forms of application for original registration under exceptional circumstances and for re-registration are respectively constructed.

The Council in Committee of the whole Council approved of these recommendations of the committee.

Attached to the committee's original report of June, 1899, are forms of application supplied to the committee by the registrar and altered by the committee in accordance with the recommendations of their report. It appears that since 1899 these forms have been somewhat modified, and therefore the committee have been supplied with copies of the forms at present used by the registrar and have altered them in accordance with the original recommendations of the committee as approved by the Council in Committee of the whole Council. The differences between the two sets of forms are insignificant. The committee have taken the opportunity of incorporating certain verbal changes in the forms, with the object of rendering them clearer and more uniform. They also propose that as an additional aid to identification the applicant should be required to give the place and date of his birth. This information would incidentally be of value for statistical purposes of registration.

The committee also dealt with the second question referred to them on May 31st, 1899—namely, the matter of granting certificates of registration beyond what is prescribed by the Medical Acts. The committee showed in their report how the giving of such certificates enabled fraudulent personation to occur and the committee recommended, in accordance with Section XXVII., Medical Act, 1858, that no certificate of registration of any name on the Medical or Dentists Register should be given except in respect of a registered medical or dental practitioner whose name did not appear in the current printed issue of the respective Register.

This recommendation was, however, rejected by the Council in Committee of the whole Council.

So far, therefore, the Council has discussed the chief points raised by the original report of the committee on the prevention of personation, has rejected one and accepted certain of the recommendations made by the committee.

This report concluded with three recommendations.

Sir VICTOR HORSLEY explained that the report was prepared by way of closing the subject as a matter of consideration and in framing the draft of it the committee had inserted into it only what the Council had approved of in committee of the whole Council. Subsequently to the printing and circulation of that draft report the committee had received some important suggestions from Dr. MacAlister, one of which was specially valuable as tending towards securing the identification of candidates for registration. That suggestion was that the forms of application should carry not only the handwriting but also name the place and date of birth. Referring to it in the report the committee stated: "They also propose that as an additional aid to identification the applicant should be required to give the place and date of his birth. This information would incidentally be of value for statistical purposes of registration." After what the Council last session had asked the English Conjoint Board to furnish in respect to persons they accepted for registration this view of the committee would no doubt appeal to the Council. He moved the adoption of the first recommendation, viz.:—

No registration on the Students, Medical, or Dentists Register respectively shall be effected unless application has been made for that purpose on a form supplied by the registrars and specified in the accompanying schedule.

Dr. MACALISTER, in seconding the motion, congratulated the Council on bringing this matter of prevention of personation to a satisfactory conclusion. The suggestion which he had made and which the committee had adopted would not only present an additional pitfall to anyone intending impersonation, as the place and date of a student's birth were as a rule known only to himself, but would also secure that the students obtained were of the proper age—namely, not less than 16 years. At present many of the certificates presented with applications for registration stated that the applicant was "over 16," but information of that kind was vague, and if they had a true record of the place and date of birth that would be most satisfactory evidence of age.

Some conversation ensued as to whether it was allowable under the Medical and Dentists Acts to impose upon the licensing bodies any particular kind of compulsory forms of application for registration such as were proposed. The President doubted the Council's ability to do so, and Dr. McVail contended that Section 15 of the Act of 1858, which Sir William Turner had cited, prevented them from doing anything like that which the committee contemplated. He did not think anyone would refuse to assist in putting the proposed system in operation, but it could be carried out only with the consent of the universities and medical corporations. Dr. Norman Moore pointed out that while the Council could do as it pleased in respect to the students registers, it was bound by the Acts of Parliament as regards the medical and dentists registers. Therefore, he suggested that the recommendation should be divided into two—one part to deal with the students registers and the other part with the medical and dentists registers, "subject to the provisions of the Medical and Dentists Acts." This suggestion commended itself to the Council and the recommendation was divided accordingly and was passed as follows:—

1. No registration on the students registers shall be effected unless application has been made for that purpose upon a form supplied by the registrars and specified in the accompanying schedule.

2. Subject to the provisions of the Medical and Dentists Acts no registration in the Medical or Dentists Register respectively shall be effected unless application has been made for that purpose upon a form supplied by the registrars and specified in the accompanying schedule.

With reference to the "accompanying schedule," as presented by the committee, exception was taken by Dr. Bennett to the requirement that the "Christian" name of an applicant should be written in full on the ground that "Christian" was offensive—say, for instance, to Jews. Sir William Turner said there was certainly a difficulty in connexion with the word "Christian," for in Edinburgh they had to receive many students from India who might be Hindus or Mahomedans and in regard to whom it was not easy to determine whether the name given was only a name or whether it was a name and title together. Several suggestions were thrown out with the view of substituting the word "Christian" by a more comprehensive term or phrase, but ultimately it was decided to leave out the requirement to give "surname" and "Christian name" in separate columns, and as passed the schedule provides that in all applications for registration as medical students there must be stated, "Applicant's full name. (To be written at length; the surname to be underlined.")

The second and third recommendations of the committee were passed as resolutions as follows:—

3. All forms of application for registration, duly signed, shall be preserved by the registrar of the Branch Council to whom they may be presented, in such manner as to be easily accessible for reference.

4. All applications for restoration to the Medical or Dentists Register, or for registration in these registers under exceptional circumstances, shall be accompanied by a statutory declaration furnished upon a form supplied by the registrars and specified in the accompanying schedule.

On the motion of Sir VICTOR HORSLEY, seconded by Sir CHRISTOPHER NIXON, a supplementary resolution in the terms following was also agreed to:—

That the Executive Committee be requested to arrange that the necessary verbal changes be made in the Standing Orders so as to bring them into accordance with the forms included in the schedule accompanying the final report of the committee on the prevention of personation.

The PRESIDENT: Will it be allowed to congratulate Sir Victor Horsley on having brought this matter to a satisfactory conclusion?

The case of James Dixon Goy, Dentist.

The Council proceeded to the consideration of the charge proved against James Dixon Goy, in regard to whom the Dental Committee reported that it had found the following facts. The complaint against James Dixon Goy having been referred to the Dental Committee to ascertain the facts, the Dental Committee reported as follows: On Nov. 22nd, 1902, the inquiry was held. Mr. James Dixon Goy did not appear personally or by representative. The Dental Committee was satisfied that notice of the inquiry was duly sent to James Dixon Goy as prescribed by the Standing Orders. The committee finds that the following facts were established by the evidence:—

(*a*) James Dixon Goy was registered in the Dentists Register on Dec. 18th, 1878, as in practice before July 22nd, 1878, and his address in the Dentists Register is 157, High-street, Lincoln. (*b*) Being a registered dentist he has advertised and continues to advertise himself with the description L.D.S. of the Royal College of Surgeons. (*c*) The said James Dixon Goy is not a Licentiate in Dental Surgery of the Royal College of Surgeons of England. A diploma which he at one time held from the Royal College of Surgeons in Ireland was cancelled by that College in 1889 and the qualification was erased from the Dentists Register on May 30th, 1889. (*d*) The said James Dixon Goy does not hold any licence or diploma from the Royal College of Surgeons of Edinburgh or the Faculty of Physicians and Surgeons of Glasgow. (*e*) By his advertisement James Dixon Goy is representing himself as holder of a qualification which he does not possess.

The evidence before the committee consisted of the following: (1) a letter from the Royal College of Surgeons of England, dated Oct. 21st, 1902; (2) a print of the advertisement issued by James Dixon Goy; (3) a letter from James Dixon Goy, dated Nov. 6th, 1902, admitting the advertisement; and (4) a statement made by the solicitor and a statement made by the Registrar of the result of inquiries made by them.

The PRESIDENT: I am informed that James Dixon Goy has not put in any appearance. The facts, therefore, may be accepted without question.

After deliberation on the case *in camerâ*

The PRESIDENT announced the Council's decision to be:—

That on the facts found in the report of the Dental Committee it has been proved that James Dixon Goy has been guilty of conduct which is infamous or disgraceful in a professional respect and the Council directs the registrar to erase from the Dentists Register the name of James Dixon Goy.

The Council adjourned.

SATURDAY, NOV. 29TH.

The Council resumed work to-day, Sir WILLIAM TURNER presiding and all the members being present.

Prevention of Personation.

It was decided that the new forms designed to prevent personation should come into force on April 1st, 1903.

The Synopsis in Physics of the English Conjoint Board.

Dr. NORMAN MOORE, referring to what took place on the previous day with regard to this matter, said that the

synopsis in physics had long been under the consideration of the Royal College of Physicians of London. There had been a great many meetings and discussions about it and he had a note from the registrar saying that the revision was adopted at a meeting of the College on July 31st of this year.

Sir VICTOR HORSLEY said that he hoped in future when a body changed the subjects of its synopsis of examination that it would always immediately notify the Council.

The PRESIDENT pointed out that there was a standing order which required the examining bodies when they made a change either in the curriculum of study or methods of examination to report the change to this Council once a year. It was right that the bodies should know this and he hoped that the representatives would advise their respective bodies to make a report.

Financial Position of the Council: Consideration of Draft Bill.

Sir VICTOR HORSLEY presented the following report from the Financial Relations Committee, viz. :—

The committee considered the following reference from the General Council adopted on May 31st, 1902: "That the Financial Relations Committee be re-appointed, with instructions to draft, with the assistance of the legal advisers of the Council, a Medical Acts Amendment Bill, carrying out the principles of financial reform approved by the Council and embodied in the 'suggested amendments to the Medical Acts' on pp. 13-17 of the report of the Financial Relations Committee; and that it also be remitted to the committee to consider what economies in the expenditure of the Council it may be possible to effect."

1. The President called attention to the passage in his opening address respecting the financial relations between the Branch Councils and the General Council stating that he adhered to the opinions there expressed and suggesting that a strong memorial should be prepared for presentation to the Privy Council with regard to the finances of the Council.

2. The committee proceeded to consider a Bill drafted by the legal advisers, which was adopted with some amendments, and was ordered to be circulated among the members of the Council.

3. The committee, though recognising that minor economies may be effected, feel that these cannot suffice to place the finances of the Council in a sound position; they therefore do not propose to report on this part of the remit on the present occasion.

WM. TURNER, Chairman.

The draft Bill was in these terms, viz. :—

MEDICAL ACTS AMENDMENT BILL.

Memorandum.

This Bill has been prepared by the legal advisers of the Council to carry out the financial reforms recommended by the Financial Relations Committee, the principle of which was approved by the Council in May last.

The Bill provides for the receipt and administration of all funds and the appointment and payment of all officers by the General Council (except that the registrars of Branch Councils are to be appointed on the nomination of the Branch Council), for an increase of the fee payable on registration and for the payment of a fee by students for entry of their names in the Students Register.

DRAFT OF A BILL TO AMEND THE MEDICAL ACTS.

Whereas it is expedient to amend the provisions of the Medical Acts: Be it therefore enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

I. (1) The General Council may from time to time appoint such person as it shall think fit to be Registrar of the General Council and may remove any person so appointed.

(2) Each Branch Council may from time to time nominate a person to be appointed registrar of the Branch Council; and the General Council, if it approves of the person so nominated, shall appoint him to be Registrar of the Branch Council. The registrar of a Branch Council may be removed by the General Council.

(3) The General Council may from time to time appoint such person or persons as it shall think fit to be treasurer or treasurers of the General Council, and may remove any person so appointed.

(4) The General Council may from time to time appoint such additional officers, including clerks and servants, as in the opinion of the General Council may be required (for the execution of the Medical Acts) and may remove any officers, clerks, and servants so appointed.

(5) There shall be paid to the Registrar of the General Council and to each Registrar of a Branch Council and to each officer, clerk, or servant appointed under the provisions of this Act, such salary, or other remuneration, as the General Council shall from time to time think fit.

(6) From and after the commencement of this Act the existing clerks and servants of the Branch Councils shall be transferred to and become clerks and servants of the General Council, and unless and until the General Council shall otherwise order hold their offices and situations on the same terms as to remuneration and conditions of employment and service as those on which they at present hold them.

II. (1) On the commencement of this Act, or on such day subsequent thereto as the General Council shall appoint, each present treasurer or treasurers of a Branch Council shall in such manner as the President and treasurers of the General Council shall direct transfer to the General Council all moneys standing to the credit of, or otherwise in the hands of, such treasurer or treasurers or Branch Council, and transfer to the General Council or to such persons as the President and treasurers of the General Council shall nominate, all the securities for money and investments belonging to, or held for, the Branch Council.

(2) From and after the commencement of this Act all moneys which under the provisions of the Medical Acts are made payable to the Branch Councils shall forthwith on the receipt thereof be paid to the General Council.

(3) All expenses of the General Council and Branch Councils, and of the execution of the Medical Acts, shall be defrayed by the General Council out of its moneys and property.

III. From and after the commencement of this Act, the fee payable on registration prescribed by Section 15 of the Medical Act, 1858, and Sections 11 and 12 of the Medical Act, 1886, shall be a fee not exceeding ten pounds, instead of a fee not exceeding five pounds; and each of the said sections shall be read and construed with the words [ten] pounds substituted therein for the words five pounds.

IV. The General Council may establish and publish a register of students, which shall be kept by the Registrar of the General Council under the directions of the General Council, and the General Council may from time to time make, revoke, and vary general and special orders for the regulation of the Students Register and the matters to be inserted therein. Every student shall, on the admission of his name to the Students Register, pay a fee of one pound.

V. From and after the commencement of this Act the provisions contained in Section 44 of the Medical Act, 1858, shall not apply to the Branch Councils or any of them, but shall apply only to the treasurers of the General Council and the accounts of moneys received and paid by such treasurers.

VI. The expenses attending the election to the General Council of a Direct Representative of the medical profession shall be defrayed by the General Council as part of the expenses of the execution of this Act.

VII. This Act shall commence and come into operation on the day of , which date is in this Act referred to as the commencement of this Act.

VIII. This Act may be cited as the Medical Acts Amendment Act, 1902, and shall be construed as one with the Medical Acts.

IX. The enactments mentioned in the schedule to this Act are hereby repealed to the extent mentioned in the third column of the said schedule.

The report was formally received and entered on the minutes.

Sir VICTOR HORSLEY moved the adoption of the first of the three paragraphs in the report. The idea of the memorial was, he said, that the Privy Council should have before it a succinct descriptive account of the financial condition of the General Medical Council in the hope that it might interest itself in the matter and either take steps of its own motion to deal with it or support such steps as the General Medical Council might think fit to propose.

Sir CHRISTOPHER NIXON seconded the motion.

Dr. NORMAN MOORE said that this proposal to petition the Privy Council must be considered in relation to the third paragraph of the report. Surely before asking the public to grant more money the General Medical Council must conclusively prove that economies could not be affected of sufficient extent to place the finances in a sound condition. That ought to be stated in the clearest possible way accompanied by tables and figures which proved it. Judging from this report it seemed as if the committee had not thoroughly considered that question and had no information to lay before the Council about it. Now in his opinion this was a step which ought to be taken before they thought of any memorial to the Privy Council. There were many economies which might be effected in the Council. Suppose, for instance, the members instead of being paid five guineas a day for attendance were to be paid three guineas or two (several members "or nothing")—yes or nothing—that was an economy which the public would look upon with complacency and which the General Medical Council might consider with propriety. That question did not seem to have been discussed by the committee. There were reforms in the Medical Acts which would relieve the Council of very considerable expense. He had never been able to understand why the expenses of the gentlemen who were called Direct Representatives should be paid by the Council. Parliament did not pay the expenses of its members.

Sir VICTOR HORSLEY: May I interrupt? What expenses of the Direct Representatives are paid by the Council?

The PRESIDENT: All that the Council does is to pay the office charges.

Dr. NORMAN MOORE: I was guided by the clause in the proposed Bill which speaks of the expenses attending the election.

The PRESIDENT: That means the office expenses.

Dr. NORMAN MOORE, continuing, said that of course he did not mean that the banquets or other entertainments to the constituents were included. At any rate, the matter should be concluded and clearly set forth and it should be done before they approached the Privy Council. If it was then quite clear that economies could not be effected without impairing the efficiency of the Council then he should agree that this step ought to be taken.

Dr. FINLAY said that something of the same kind of thing had occurred to him. He rather regretted that this matter

had been passed over in such a light and airy manner by the committee. He thought there were some minor economies which might be effected, which would amount to some hundreds of pounds in the year.

Sir VICTOR HORSLEY, rising to a point of order, said that he was quite ready to defend the work done by the committee but the time to do so was when they dealt with the third paragraph of their report.

Dr. FINLAY said that he was quite willing to wait.

Dr. MCVAIL argued that this question of a memorial to the Privy Council should not be brought on until they had discussed the financial position. It was absurd to begin by saying that they would have a memorial without having first considered the fundamental points of the financial position. He therefore moved that the proposal be postponed in the meantime.

Dr. BRUCE seconded this amendment.

Sir VICTOR HORSLEY intimated that he had no objection to postponement.

The Council thereupon agreed to postpone till a later period the consideration of this matter.

On the suggestion of the PRESIDENT the Council went into committee to consider the clauses of the draft Bill.

Sir VICTOR HORSLEY reminded the Council that it had agreed to a concentration of the finances, that instead of the income being received and dealt with by the branches and then by a somewhat cumbersome machinery subscribed to the funds of the General Council, it should be transmitted direct to the central offices in London and therefore that all expenses should be paid as from the central offices, and as a corollary to that that all the appointments of clerks and officers to carry on the work should proceed from the General Council. Exception was made in the case of the branch registrar who was to be nominated by the branch. To carry out this concentration and centralisation of the finances of the Council this Bill had been drafted. The second important matter was an attempt to provide for the lack of income by raising the registration fee. The Council had decided by a special resolution that a sum not exceeding £10 should be the registration fee, there being a fairly general feeling that the fee should be £7 instead of the present sum of £5. The words "not exceeding" appeared in the original Medical Act of 1858, and they were used in the present draft Bill. The third important matter was the question of the registration of students. It would be remembered that when the Financial Relations Committee's report was before the Council Dr. Norman Moore drew attention to the fact that, although the committee had advised that a fee of £1 should be charged every student whose name was entered on the Students Register, there was no compulsory registration and that the committee had not recommended the compulsory registration of students. He (Sir Victor Horsley) admitted that that was so; members would not find in the report any reference to the compulsory registration of students. In these circumstances he personally thought that they could not introduce any such clause into this Bill and no such clause had been introduced. But a voluntary clause had been introduced. In this clause would be found the establishment of what was the actual conduct of the Council in this matter at the present time. The Council had instituted and it published a register of students, but it had done so without any express statutory qualification. He did not say it was necessary: the Council could take this step of its own motion, but Mr. Muir Mackenzie, the legal adviser of the Council, thought fit, and his suggestion had been adopted by the committee, that a clause should be drafted and inserted in the Bill to put the work of the Council upon a statutory basis. The clause did not alter in the least the present state of affairs as regards the institution of a Students Register, but it made it more satisfactory in that it provided for its having a statutory right or justification. The last sentence of the clause, however, raised a new point which was agreed to by the Council last session when it adopted the committee's report—namely, that every student should pay a fee of £1 for the entry of his name upon the Register. It had been suggested that this was in the nature of a hardship, but he submitted that it was nothing of the kind. All through the government of this country when any person wished to obtain an official sanction of his position he had to pay a fee. If one wished to take out a summons at a police-court one had to pay a fee. Clause 5 merely stated that the provisions in the Medical Acts relating to the income and expenses should no longer apply to the branch councils but should apply to the General Council. Then there was the clause which had excited anxiety in the mind of Dr. Norman Moore and which had been explained, while as for the remainder of the clauses they were merely formal.

Some discussion took place as to the course of procedure. It was suggested that something in the nature of a second reading debate should be allowed in the first instance, but it was decided that the Council should proceed with the consideration of the clauses one by one and have a general debate at the end.

Sir VICTOR HORSLEY accordingly moved the adoption of the first subsection of Clause 1 and the motion, being seconded by Sir CHRISTOPHER NIXON, was agreed to.

On the second subsection being put,

Dr. MCVAIL said that the Irish representatives might do what they pleased, but he entirely objected to the Scottish Branch Council losing the power to appoint its own registrar. He could not remember anything that a Scottish registrar had ever done or that the Scottish Branch Council had done in connexion with the appointment of a registrar which warranted the proposed deprivation. It was perfectly absurd that the Scottish Branch Council meeting in Edinburgh should only have the power to nominate a registrar and should have to ask the opinion of a number of gentlemen sitting in London who knew nothing about the man. He asked the Council whether it supposed that a Bill with such a provision would ever be passed by Parliament. Did it think that the Scottish Members of Parliament would tolerate it? What was the use of putting clauses into a Bill which would never pass? The clause was perfectly preposterous. There was every reason for leaving things in the present state and no reason at all for making this proposed change.

Mr. JACKSON said that Dr. McVail might be sure that any registrar nominated by the Scottish Branch Council would be accepted by the General Council.

Sir VICTOR HORSLEY said that it was felt that the body which paid a servant should have at least a veto upon his appointment and this was all that was proposed. The Branch Council would nominate and the General Council would appoint. If Dr. McVail thought he was going to get the House of Commons to pass a provision under which the person who paid the salary was not to have the appointment he was very much mistaken.

Dr. MCVAIL argued that this contention of Sir Victor Horsley was out of order because, so far, they had reached nothing in the Bill about the payment of salaries. In this connexion members had only to vote for or against the branches being deprived of the power to appoint their own registrars. Of course, he was going to object to the transference of the funds of the Branch Councils to the General Council.

Dr. LITTLE said he was surprised that Dr. McVail should object to an arrangement so reasonable. To his mind it was absolutely necessary that the body which paid a man should have the actual appointment, and as an Irish member he thought that if the General Council assumed the responsibility of paying the expenses of the Irish Branch Council he should be very glad to be able to say to the numerous candidates who were likely to come forward for the appointment of registrar: "You know it is all very well, but the appointment rests with the General Council: we can only recommend."

Dr. BENNETT said that as chairman of the Irish Branch Council he agreed with Dr. McVail rather than with Dr. Little. He could not regard the proposed arrangement as a very wise one, because he thought that the Branch Council should have supreme control over its servants.

Sir CHRISTOPHER NIXON insisted that there was nothing in Dr. McVail's contention. Did Dr. McVail imagine for a moment that if a nomination were made by the Branch Council in Scotland that members of the General Council from England and Ireland would reject the nomination? His view was that when the General Council undertook to pay this officer it must have the right to appoint and to dismiss him. He would suggest, however, that the Branch Council should have a power of suspension in the case of an officer who was found unsatisfactory.

Sir VICTOR HORSLEY intimated that he was willing to adopt this suggestion.

The latter part of the subsection was made to read:—

The registrar of a Branch Council may be suspended by the Branch Council and may be removed by the General Council.

Dr. BENNETT informed the Council that this alteration met his difficulty.

Dr. ATTHILL said that the General Council could not force a registrar upon a Branch Council because the candidate must be nominated by the latter body.

On a vote being taken 18 members voted for the subsection, 2 voted against it, and 11 did not vote either way.

Dr. MCVAIL intimated that he would oppose the provision elsewhere and explained that he made this intimation in order that there might be no misunderstanding as to his position.

Subsections 3 and 5 were agreed to but Subsections 4 and 6 were postponed in order that Mr. Muir Mackenzie might be consulted further with regard to them.

Sir VICTOR HORSLEY moved the adoption of Subsection 1 of Clause 2, which proposes the transfer of funds to the General Council and payment of all expenses by the General Council. He remarked that if the moneys in question were appropriated to their original purpose they would be taken from the branches and handed over to the General Council, and that was all the subsection proposed. It was drafted in very elastic terms, which would provide for the transfer being conducted as conveniently and rapidly as possible. Of course, the object was to centralise the whole property of the Council in the hands of the General Council.

Dr. NORMAN MOORE asked whether the legal adviser's attention was drawn to the interest which the English Branch Council had in the property of the General Council. He believed they held a mortgage for £25,000.

Sir VICTOR HORSLEY: That is one of the complications I referred to.

Dr. MCVAIL objected to the clause altogether. He thought it was the most extraordinary thing that the whole constitution of the Council and its branches was to be torn up because the funds of the General Council were falling short. It would be a different matter if it was to give more money, which it did not do. It, however, took the accumulated funds of the English Branch which amounted to £30,000 and of the Scottish Branch amounting to £5000. Ireland had nothing to take away. These accumulated funds were suddenly to become, like the loaves and fishes, sufficient for all. But would they be? There was no such prospect. Let them—instead of adopting the course proposed which would take away the independence of the branches and even the appointment of their office boys—extend the usefulness of the branches, as there was nothing to hinder the penal work being done in each of the countries in which cases arose. The Act undoubtedly meant that these Branch Councils were to be active bodies.

Dr. ATTHILL: Did not Mr. Muir Mackenzie instruct us that the penal cases could not be heard except by the General Council.

Sir VICTOR HORSLEY: Yes.

Dr. MCVAIL maintained that under Clause 6 of the Act of 1858 there was no doubt that the Council could relegate all its duties to the Branch Councils, the only thing reserved to the General Council being the making of representations to the Crown. He had thought for a long time that the Council would have been doing better work by giving more to the Branch Councils to do. If they went according to the Act they might not have to meet in London more than once a year.

Dr. NORMAN MOORE reverted to the subject of the mortgage and inquired how the action of the trustees was to be controlled, one of the two being a member of the Council and the other not

Sir VICTOR HORSLEY: I think that the mortgage would be paid off so soon as the Council came into its property.

Dr. NORMAN MOORE suggested the addition of the words, "or trustees acting for such Branch Council," so as to make the subsection provide for the "transfer to the General Council all moneys standing to the credit of, or otherwise in the hands of, such treasurer or treasurers or Branch Council, or trustees acting for such Branch Council."

Sir VICTOR HORSLEY was willing to insert the words suggested.

Mr. BROWN was not particularly in favour of this Bill, because it appeared to him that it did not meet the case in the matter of economies by such means as those pointed to by Dr. McVail. If the Branch Councils could do work at two guineas a day the work would be done more cheaply than in London, where the members were paid five guineas a day. He should certainly object to any transfer of funds in the way proposed until they had thoroughly gone into the question of delegating the work of the General Council to the Branch Councils.

On a vote, the subsection was carried by 19 votes to 2, 10 members declining to vote.

Subsection 2 of the clause was agreed to without a vote.

Dr. MCVAIL said that he opposed all this but he did not want every time to ask for the names and numbers. Was there no way in which he could take a vote once for all?

The PRESIDENT: You have taken a division on the fundamental part of the clause. The second and third subsections simply follow on after the first.

Sir VICTOR HORSLEY said that of course Dr. McVail would have the privilege of giving a collective vote against the whole thing when it came before the Council itself. He proposed that Subsection 3 should be referred to Mr. Muir Mackenzie because of the reference to the Medical Acts which it contained

Dr. MACALISTER pointed out that when the late Registrar (Mr. Miller) vacated his position he discovered that the Act gave the Council no power to assign pension or retiring allowance and they therefore gave him a considerable honorarium instead. Should a similar position arise again it might be a difficulty in the way of the Council and therefore he suggested that this matter also should be brought under the notice of Mr. Muir Mackenzie.

The Council agreed and the subsection was postponed.

Sir VICTOR HORSLEY moved the adoption of Clause 3, which provides for an alteration of fees payable on registration.

Dr. FINLAY wished to know what power there was for reducing the fee of £10 proposed.

The PRESIDENT pointed out that the fee would not necessarily be £10. The power proposed was that the fee should be one "not exceeding £10." The Council could fix a fee as much lower as it thought fit.

Dr. MCVAIL said surely this clause could not be adopted by the Council with its present knowledge. Seeing that they had not before them information as to what economies might be effected it would be absurd to ask Parliament to pass a Bill to double the Council's income.

Sir CHRISTOPHER NIXON asked if it would not be equally absurd for the Council to recognise that they had a deficit of £1000 to £1500 a year without taking some steps to prevent themselves running into bankruptcy. The Council had to consider the fact that nowadays universities were being multiplied. These institutions would necessarily seek to have representatives on the General Council and these representatives must be paid. In looking about to see how they could meet this increased expenditure the committee did go into the question of economies. It considered whether the Council should have longer hours and whether there should be a reduction of the payment to the members. It did not say that the members ought to attend for two or three guineas or for nothing or for the honour of meeting the Scotch, English, or Irish members. To some attendance at the Council's sessions meant considerable reduction of income, and although he thought each of them should do an amount of good work for the public there was a certain limit to what they should do at a personal loss. The committee found that the amount that would be saved by such economies would not be at all effective and what the clause proposed was the only way in which they considered it would be possible to secure an adequate income for the Council. Of course, they did not consider the question of having the penal cases tried by the Branch Councils because everyone, perhaps, except Dr. McVail believed that the public and the profession would not be satisfied that such cases should be dealt with except by the General Council.

Sir JOHN WILLIAMS said that the committee had not reported the results of its investigation into the economies that might be made. He thought they ought to have these clearly set forth so that they might know the amount of the economies. In the absence of a report he should vote against the clause.

Dr. BRUCE stated that he had started out to see what economies could possibly be effected, but further consideration had entirely persuaded him that such economies were so small and insignificant that they would not meet the case, and it was because he was convinced of that that he supported this clause. Moreover, he was quite convinced that the only proper way was to get the increase of money at the commencement of the registration. To think of getting it year by year would entail far too much office work, and the initial fee which was now proposed did not seem to him to be excessive.

Sir JOHN BATTY TUKE: As to "minor" economies I beg

to remind the Council that for the last 15 years I have endeavoured to secure large economies.

Sir VICTOR HORSLEY: We must have these major economies specified. They have never been specified unless by Sir John Tuke who suggested that we should do the work for nothing. That is certainly a major economy.

Dr. HERON WATSON: If the matter goes to Parliament I shall adhere to the opinion I have previously expressed, that we should do the work for nothing.

On a division the clause was carried by 17 votes to 3, 10 members declining to vote.

As it was now within a few minutes of the usual hour of adjournment, and as it was impossible to finish consideration of the remaining clauses, it was agreed that the proceedings in committee should terminate for the day. On the Council thereupon resuming it was resolved, on the motion of Dr. NORMAN MOORE, seconded by Mr. BRYANT—

That the draft Bill be referred back to the committee to confer with the legal advisers on the points which have been raised in relation to Clauses 1 and 2.

The PRESIDENT asked the committee to meet at once in order to insure the report as to their consultation with the legal advisers being ready for consideration by Monday afternoon.

The Council adjourned.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the First Professional Examination for the Diploma of Fellow at the November half-yearly meeting of the examiners:—

Francis Barlow Ambler, St. Bartholomew's Hospital; Robert Henry Bott, St. Bartholomew's Hospital; Hector Charles Cameron, M.A. Glasgow, B.A. Camb., Guy's Hospital; David Kirkpatrick Coutts, St. Thomas's Hospital; John Cunningham, Trinity College, Dublin; Frederic William Daniels, London Hospital; Lawrence Dukes, B.A. Camb.; Cambridge University and King's College, London; Harold Edward Dyson, University College, London; Frederick William Ellis, M.B., Ch.B. Aberd., Aberdeen University, and Yorkshire College, Leeds; Charles Henry Fielding, St. Bartholomew's Hospital; Henry Harper Formby, M.B., B.S. Melbourne, Adelaide and Melbourne Universities, and London Hospital; Arthur Donald Griffith and Frederick Augustus Hadley, M.R.C.S. Eng. and L.R.C.P. Lond., King's College, London; Henry Hardwick Smith, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; Francis Joseph Maria Hasslacher, M.B. Lond., M.R.C.S. Eng., and L.R.C.P. Lond., King's College, London; Russell John Howard, M.B., B.S. Lond., London Hospital; Leonard Soustaat Hughes, M.R.C.S. Eng. and L.R.C.P. Lond., University College, London; Thomas Martin Hughes and Hamilton Irving, Queen's College, Manchester; Herbert Stanley Jenkins, M.B. Lond., M.R.C.S. Eng. and L.R.C.P. Lond., University College, Bristol, and King's College, London; William Warner Jones, B.A., M.B. Toronto, M.R.C.S. Eng. and L.R.C.P. Lond., Toronto University and King's College, London; Frank Anderson Juler, B.A. Camb., Cambridge University, and King's College, London; Thomas Lewis, B.Sc., University of Wales, University College, Cardiff, and University College, London; Frederick William Marlow, M.D., C.M., Trinity College, Toronto, L.R.C.P. Lond. and M.R.C.S. Eng., Trinity Medical College, Toronto, University College, and King's College, London; Arthur Hallowes Miller, B.A. Camb., Cambridge University, and Guy's Hospital; Lionel Edward Close Norbury, St. Thomas's Hospital; Arthur Boniface O'Brien, Guy's Hospital; Thomas Perrin, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond. and St. Thomas's Hospital; George Lancaster Ranking, B.A., Camb., St. Bartholomew's Hospital; William Sidney Sweet, B.Sc. Lond., University College, London; Philip Talbot, Owens College, Manchester; Herbert Bell Tawse, M.B., Ch.B. Aberd., Aberdeen University and King's College, London; George Grey Turner, M.B., B.S., M.S. Durh., M.R.C.S. Eng., and L.R.C.P. Lond., Durham University; Harold Upcott, M.R.C.S. Eng. and L.R.C.P. Lond., St. Thomas's Hospital; James Glen Wallis, B.A. Trin. Col. Dub., Trinity College, Dublin; Percival Wood, M.R.C.S. Eng. and L.R.C.P. Lond., St. Bartholomew's Hospital; Robert Alfred Worthington, B.A. Camb., Cambridge University and London Hospital; and Garnett Wright, M.B., Ch.B. Edin., Edinburgh University and King's College, London.

The following gentlemen having passed the necessary examination and conformed to the by-laws have been admitted Members of the College:—

William Bradshaw Ainger, St. Bartholomew's Hospital; Joseph Baird Albury, St. Mary's Hospital; Frederick Hugh Alexander, University College Hospital; Algernon James Beadel, Guy's Hospital; Charles Cameron Bell, M.B. Toronto, Toronto University and University College Hospital; Henry Francis Bellamy, M.D. Lausanne, Charing Cross Hospital; Harold Bentley, B.A. Camb., Cambridge University and Guy's Hospital; Douglas Horne Blackader Bett, M.B., Ch.B. New Zealand, New Zealand University and University College Hospital; George Bevir, London Hospital; William Nichols Blatchford, University College, Bristol; Thomas Munn Body, St. Bartholomew's Hospital; George Archibald Bosson, University College Hospital; Sidney Arthur Boyd, Charing Cross Hospital; Charles Reginald Bradley, St. George's Hospital; William Alfred Brend, M.A. Camb., B.Sc. Lond., Cambridge University and King's College Hospital; Roland Harley Bridges, St. Thomas's Hospital; John Hay Burgess, St. Mary's Hospital; Edward Postle Gwyn Causton, B.A. Camb., Cambridge University and St. Mary's Hospital; William Alfred Cerswell, M.B. Toronto, Toronto University and University College Hospital; Claude Lionel Coode, B.A. Oxon., Oxford University and London Hospital; Gerald Coneybeare Cross, Middlesex Hospital; Millais Culpin, London Hospital; Harold Juler Cundell, St. Mary's Hospital; Thomas Ashton Davies, M.B. Edin., Edinburgh University; Harold Benjamin Day, King's College Hospital; William Leigh Maule Day, B.A. Oxon., Oxford University and Guy's Hospital; Henry Devine, University College and Royal Infirmary, Bristol; Edward William Dewey, St. George's Hospital; Charles Dix, St. Bartholomew's Hospital; Robert Stanbanke Drew, B.A. Camb., Cambridge University and St. Mary's Hospital; Henry Lloyd Driver, St. George's Hospital; George Perry Duprey, L.D.S. Eng., Middlesex Hospital; Robert Joseph Dwyer, Toronto University and University College Hospital; William Thomas Evans, Cardiff and University College Hospital; Hamilton Stanley Faber, St. George's Hospital; Erasmus Oakes Faulkner, St. Mary's Hospital; Edgar Faulks, Guy's Hospital; William Ambrose Fish, M.D., C.M. Toronto, Trinity College, Toronto, and University College Hospital; Walter Harrington Fisher, B.A. Camb., Cambridge University and London Hospital; Maurice Anthony Miller Fitzmaurice Kelly, St. Mary's Hospital; James Hogg Frazer, M.D. Edin., Edinburgh University and Charing Cross Hospital; Harry Gardner, University College Hospital; Alfred Francis Bilderbeck Gomess, King's College Hospital; Harold Utterton Gould, Cambridge University and St. Bartholomew's Hospital; Arthur Llewellyn Baldwin Green, Aberdeen University and St. Bartholomew's Hospital; Arnold Gregory, Yorkshire College and General Infirmary, Leeds; Gerald Griffen, London Hospital; John William Gromitt, Guy's Hospital; Arthur James Hall, M.B., B.S. New Zealand, Otago University, New Zealand, and London Hospital; William John Harrison, M.B., B.S. Durh., Durham University and St. Thomas's Hospital; John Hamilton Hart, St. Thomas's Hospital; Frank Harvey, St. Bartholomew's Hospital; Harold Ernest Heapy, University College and Royal Infirmary, Liverpool; Charles Alwis Hewavitarna, University College Hospital; Ernest Charles Hodgson, St. Bartholomew's Hospital; William John Hogg, L.S.A. Lond., Queen's College, Belfast, and Middlesex Hospital; Gerald Stephen Hughes, Middlesex Hospital; Reginald Hugh St. Bernard Ellis Hughes, St. Mary's Hospital; Frederick Douglas Selmes Jackson, Guy's Hospital; William Warrick James, L.D.S. Eng., Middlesex Hospital; George John Jenkins, M.B., C.M. Edin., Edinburgh University and King's College, London; Bernard Watson Jones, Queen's and General Hospital, and Birmingham University; Robert Pettigrew Kennedy, University College, Glasgow; Percy Kitchin, L.S.A. Lond., Yorkshire College, Leeds, and St. Mary's Hospital; Francis Courtenay Lambert, St. Mary's Hospital; Richard Coger Lawry, Guy's Hospital; Hugh Davenport Ledward, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; Alfred James Andrew Lennane, L.S.A. Lond., University College Hospital; George Murray Levick, St. Bartholomew's Hospital; Alfred Lewthwaite, University College Hospital; Charles Ernest Wheatley Syth, University College and General Infirmary, Sheffield; George Bartley McKean, University College Hospital; Joseph Fennell McKee, M.B. Toronto, Trinity College, Toronto; Arthur Thomson Marshall, King's College Hospital; Lionel Henry Maiser, Yorkshire College, Leeds, and Guy's Hospital; Geoffrey Stuart Moore, L.S.A. Lond., London, and Middlesex Hospitals; Gilbert Phillips Mosscrop, London Hospital; Albert Angelo Myers, King's College Hospital; Alexander Charles William Newport, Charing Cross Hospital; Thomas Hamilton Ollerhead, St. Mary's Hospital; Santiago Luis Pallant, L.D.S. Lond., Guy's Hospital; Harold William Pank, and Frederic Denis Parbury, St. Bartholomew's Hospital; Wilfred Parsons, University College Hospital; William Fergus Paterson, Otago University, New Zealand, and Middlesex Hospital; Percy George Pavitt, L.D.S. Eng., Middlesex Hospital; Robert Augustus Greenwood Penny, St. George's Hospital; Alexander Sturrock Petrie, St. Bartholomew's Hospital; Francis Baldwin Pinniger, Charing Cross Hospital; Robert Cecil Pitt, London Hospital; Arthur Henry Sims Richardson, Westminster Hospital; Arthur Richmond, M.B., Ch.B. Vict., Owens College, Manchester, and St. Bartholomew's Hospital; George Struan Robertson, Guy's Hospital; David Pratt Rockwood, University College Hospital; William Paul Rodrigo, D.P.H. Lond., L.M.S. Ceylon, Ceylon Medical College and King's College Hospital; Jacob Schumer, M.D. Vienna, Vienna and Cracow Universities and Charing Cross Hospital; Wallace Arthur Scott, M.B. Toronto, Trinity College, Toronto, and University College Hospital; Charles Gibbons Seymour, St. Thomas's Hospital; Herbert Bartlett Simpson, University College Hospital; Dansey Smith, Middlesex Hospital; Edward Bertram Smith, St. Bartholomew's Hospital; James Ernest Sutcliffe Smith, Owens College and Royal Infirmary, Manchester; Thomas Morland Smith, Guy's Hospital; Hugh Statham, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; Charles Stiebel, Cambridge University and St. Thomas's Hospital; William Eugene Struthers, M.B. Toronto, Trinity College, Toronto, and Middlesex Hospital; Reginald Thompson, St. Bartholomew's Hospital; Philip Frederic Tinne, B.A. Oxon., Oxford University and St. George's Hospital; Harold Tipping, Guy's Hospital; Isidor Tritsch, Vienna University and University College Hospital; Hubert Maitland Turnbull, B.A. Oxon., Oxford University and London Hospital; Vivian Francis Wall, L.S.A. Lond., St. Mary's Hospital; Herbert Victor Wenham, St. Bartholomew's Hospital; Charles Herbert Wood, University College Hospital; John Robert Lloyd Woods, Cambridge University and St. Thomas's Hospital; and George Young, M.D. Zürich, Jefferson Medical College, Zürich, Durham University, and London Hospital.

The following gentlemen passed the First Professional Examination for the Licence in Dental Surgery at the

November half-yearly meeting of the examiners in the subjects indicated :—

Mechanical Dentistry and Dental Metallurgy.—John Herbert Balls, Alfred Cyril Bartlett and John Bourdas, Royal Dental Hospital, London; Charles Stevenson Beckett, Alfred Oswald Calland, Alfred Braithwaite Charlick, and Charles Francis Dickins, Liverpool Dental Hospital; Herbert Alfred de Pinna, Royal Dental Hospital, London; Bertram Joseph Eccles, Dental Hospital, Birmingham; John Herbert Fitzgerald and Robert Percy Gwynne, Royal Dental Hospital, London; George Edward Fritche National Dental Hospital; Walter Hargrave, Victoria Dental Hospital, Manchester; Ambrose Edgar Holman and Victor Stanley Houchin, Guy's Hospital Dental Department; Arthur Bleachy Oddie, Dental Hospital, Birmingham; William Charles Palk, National Dental Hospital; Percy Vivian Giles Pedrick, Guy's Hospital Dental Department; Felix Rawsthorne, Victoria Dental Hospital, Manchester; Martin Richards, Royal Dental Hospital, London; Henry Harrison Tomlinson, Liverpool Dental Hospital; William Westland Vaughan, Guy's Hospital Dental Department; Thomas George Walford, Royal Dental Hospital, London; Joseph Hindle Westmoreland and William Hubert Williams, Victoria Dental Hospital, Manchester; Herbert Edwin Warren Williams and George Edmund Wood, Guy's Hospital Dental Department; and George Woolford, Royal Dental Hospital, London.

Mechanical Dentistry only.—Horace Stanley Chandler and Frederkic John Cutler, Guy's Hospital, Dental Department; Harry Wardlaw Fuller, Royal Dental Hospital, London; William Hopton, Victoria Dental Hospital, Manchester; Alfred James Mundy, Royal Infirmary and General Hospital, Dental Department, Bristol; Frederick Nelson Palmer, Guy's Hospital, Dental Department; Vyvian Fitzgerald Sargent, Royal Dental Hospital, London; Thomas Whitaker, Victoria Dental Hospital, Manchester; and Herbert John de Burgh Wooldridge, Royal Dental Hospital, London.

Dental Metallurgy only.—John Joseph Armitage and Edmund Aloysius Emery, Royal Dental Hospital, London; Edward Henry Hollick, Dental Hospital, Birmingham; Joseph Henry Lewars, Newcastle-on-Tyne, Dental Hospital, Durham; William John Jones and George Holmes Smith, Royal Infirmary and General Hospital Dental Department, Bristol; Harold Thomson, Victoria Dental Hospital, Manchester; Ingram Ernest Watson, Royal Dental Hospital, London; Reginald Cecil Webster, Liverpool Dental Hospital; Albert Edwin Williams, Guy's Hospital Dental Department; and John Williams, Liverpool Dental Hospital.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees were conferred on Nov. 29th :—

M.D.—J. H. H. Manley, Emmanuel.
M.B.—W. E. M. Ede, King's.
B.C.—L. Reynolds, Trinity.

Dr. D. MacAlister has been elected a Member of the Court of Discipline for Graduates, known as the *Sex Viri*.

FOREIGN UNIVERSITY INTELLIGENCE.—*Athens:* Dr. G. Phocas has been appointed to the chair of Clinical Surgery.—*Berlin:* The title and rank of Professor have been conferred upon Dr. Paul Jacob, Dr. Max Michaelis, Dr. H. Rosin, and Dr. Hermann Strauss, *privat-docenten* of Internal Medicine.—*Bonn:* Dr. Foerster and Dr. Finkelnburg have been recognised as *privat-docenten* of Psychiatry. Dr. Liniger has been recognised as *privat-docent* of Surgery and Accidental Injuries.—*Dorpat or Iurieff:* This university is about to be transferred to Wilna.—*Erlangen:* Dr. Alfred Denker has been offered the chair of Laryngology and Otology.—*Göttingen:* Dr. Ribbert of Marburg has been appointed to succeed Dr. Orth in the chair of Pathological Anatomy.—*Halle:* Dr. O. Frese has been recognised as *privat-docent* of Laryngology. Dr. Braunschweig, *privat-docent* of Ophthalmology, and Dr. Sobernheim, *privat-docent* of Hygiene, have been granted the rank and title of Professor.—*Heidelberg:* Dr. Kümmel of Breslau has been offered the Extraordinary Professorship of Otology and Laryngology vacated by the migration of Professor Passow to Berlin.—*Lund:* Dr. Olrich has been appointed Lecturer in Medicine.—*Maryland:* Dr. J. Holmes Smith has been appointed to the chair of Anatomy, Dr. Frank Martin and Dr. St. Clair Spruill to chairs of Clinical Surgery, and Dr. D. M. R. Culbreth to that of Materia Medica.—*Montpellier:* Dr. H. Bertin-Sans has been appointed to the chair of Hygiene.—*Moscow:* Dr. Constantin Pavlinoff has been appointed to the chair of Clinical Therapeutics. Dr. Rein has been appointed Extraordinary Professor of Operative Surgery and Topographical Anatomy.—*St. Petersburg (Military Medical Academy):* Dr. Moisseieff has been appointed to the chair of Pathological Anatomy and Histology.—*Tokio:* Dr. Baelz is resigning the chair of Clinical Medicine, retaining his appointment as physician to the Imperial Family.—*Tubingen:* Dr. Theodor von Jürgensen is retiring from the chair of Pharmacology and Internal Medicine.—*Vienna:* Dr. Josef Fabricius has been recognised as *privat-docent* of Midwifery. Dr. Alexander Frankel (*privat-docent* of Surgery), Dr. Hubert Peters and Dr. Richard Braun von Fernwald (*privat-docenten* of Gynæcology), Dr. Hermann Schlesinger (*privat-docent* of Medicine), Dr. Albert Bing (*privat-docent* of Otology), Dr. Salomon Klein (*privat-docent* of Ophthalmology), and Dr. Anton Ghon (*privat-docent* of Pathological Anatomy), have all been granted the rank and title of Professor.

SCARLET FEVER AT SALISBURY.—Owing to the prevalence of scarlet fever in Salisbury it was decided to close all the elementary schools on Nov. 24th.

THE NATIONAL DENTAL HOSPITAL AND COLLEGE.—Mr. W. Rushton took the chair at the annual dinner of the past and present students at the Royal Venetian Chamber, Holborn Restaurant, London, on Nov. 28th. There was a good attendance and the guests did not separate until a late hour. After the usual loyal toasts had been duly honoured, Mr. W. Rushton proposed "The National Dental Hospital and College." He considered that the present dental curriculum was quite severe enough and regretted that evasion of the Dentists Act was so easily managed because the example of unregistered practice was a very bad thing for those students who failed to pass their examinations. He concluded by remarking that they must persuade those medical men who gave anæsthetics for unregistered practitioners in dentistry to refrain from so doing.—Mr. P. Sidney Spokes, in acknowledging the toast, described the success of the work carried on at the hospital and gave details of the way in which the students were keeping up the high character of the dental school.—Mr. S. J. Hutchinson proposed "The Past and Present Students," which was replied to by Mr. W. S. Rose, who said that the examiners at the Royal College of Surgeons of England valued theoretical teaching more than practical work. He asked what was the good to a practical dentist of being able to describe the dentition of the ornithorhynchus. Mr. C. S. Tomes, F.R.S., in responding to the toast of "The Visitors," proposed by Mr. C. W. Glassington, said that when he was examiner at the College the practical part of the examination carried higher marks than any other portion of the examination. The candidates, he added must remember that they did not know all the secrets of the prison house. Mr. Tomes gave an interesting and historical review of legislation in regard to unqualified practice and concluded by exhorting his hearers to proceed on the path of reform with caution.

FESTIVAL BANQUET TO LORD ROBERTS BY THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—The Irish Medical Schools' and Graduates' Association entertained Lord Roberts and a distinguished company to dinner at the Hotel Cecil, Strand, on Nov. 26th. The office of chairman was filled by the president of the association, Sir Philip Crampton Smyly. The guests numbered considerably over 500 and the proceedings were marked by the utmost enthusiasm. Mr. P. J. Freyer discharged the duty of announcing that the Arnott Memorial Medal, founded in memory of the late Sir John Arnott, had been awarded to Captain T. J. Crean, V.C., R.A.M.C. The medal was given to Captain Crean for services rendered during the South African war for which he had received the Victoria Cross. Mr. Freyer described how Captain Crean under a heavy fire, though wounded, still attended to the care of the men in the fighting line and only stopped when wounded a second time, as was at first thought mortally, by a bullet that entered over the region of the heart and was subsequently extracted from the hip. Captain Crean went through the siege of Ladysmith and was at the relief of Mafeking. Sir Philip Smyly, to whom Captain Crean was formally introduced, congratulated him on the honour and asked Lady Aileen Roberts to present the medal. Captain Crean acknowledged the award in a short speech and experienced an enthusiastic ovation. Dr. J. Little, Regius professor of physic, University of Dublin, proposed "Our Defenders," which was replied to by Inspector-General W. H. Lloyd, R.N., Colonel D. Hutchinson, and Surgeon-Captain W. H. Bourke, 1st Middlesex R.E. (Volunteers). Sir Philip Smyly in giving the toast of "Our Guests" referred to the great services of the principal guest, Lord Roberts. Lord Roberts, in replying, said that he was not born in Ireland but was of Irish descent and was proud of the fact. It was a real pleasure to him to be there that night and to find that he was considered by Irish men and Irish women as one of themselves. He was glad to see some of those Irish medical gentlemen there who came out to help the sick and wounded in South Africa. He had often met Sir William Thomson at the war and he knew the excellent work that had been done. Lord Roberts then proceeded to refer to Captain Crean and the regiment he belonged to.

The enjoyment of the evening was enhanced by the excellent rendering of a musical programme. Amongst those present were, besides the speakers named, Sir William Turner, F.R.S., Sir Dyce Duckworth, the Hon. Mr. Justice Wills, Sir Philip Hutchins, K.C.S.I., Lord Headley, and Dr. J. H. Swanton.

WATER-SUPPLY OF FROME.—The new reservoir was formally opened on Nov. 22nd. It has been completed at a cost of £2400 and will hold 500,000 gallons of water.

MEDICAL FOOTBALL MATCH.—A football match under Rugby rules was played at Bristol on Nov. 27th between "Bristol Medicals" and "Cardiff Medicals" and resulted in a win for the former team by one try.

THE NEW WEYMOUTH SANATORIUM.—In spite of repeated enlargements the old Weymouth sanatorium was found to be quite inadequate to meet the demands made upon it and Dr. J. Macpherson Lawrie, the honorary secretary, personally undertook the task of raising funds for the erection of an entirely new building. Between £15,000 and £16,000 were collected and in 1901 the foundation-stone of a new sanatorium was laid by the Dowager Duchess of Beaufort. The building has now been completed and on Nov. 19th it was formally opened by the Countess of Ilchester. The institution, which is situated at Greenhill, Weymouth, will be known as the Princess Christian Hospital and Sanatorium. The site is one high above the sea level and has a south-east aspect. The building is symmetrical in design, with a main central entrance and hall with waiting-room and matron's room, a central staircase and corridor leading right and left to the wards. The four large wards, each 48 feet by 24 feet, and 12 feet high, contain 12 beds. The fireplaces are in the centre of the wards, lined with glazed tiles, and the floors are of polished oak. Adjoining each ward is a nurse's duty room. The lavatory and bath-room blocks are isolated by a cross-ventilated passage and the walls are lined with white glazed bricks. In the central part of the building on the first and second floors are small wards with duty room adjoining and rooms for the matron, nurses, and domestic servants, with separate bath-room and lavatory accommodation. The operating-theatre, which is on the first floor, is lined with white crystopal tiling and fitted up with the latest appliances. Anæsthetic and sterilising apartments adjoin the operating-theatre. The kitchen department is centrally situated on the ground floor at the back of the main corridor in a one-storey building top-lighted. On the ground floor under the wards are day- and dining-rooms for convalescents. The accommodation for out-patients consists of a waiting-room, a private room, and a dispensary. The corridors of the building are heated by hot-water coils. In commenting upon the opening ceremony our lay contemporary, the *Southern Times*, says: "There is an immediate need of about £1500 for the furnishing, equipment, &c. We cannot think that, having carried his great scheme so far, Dr. Lawrie will suffer any check in completing it, so that the new building may be occupied and started on its course of usefulness with the least possible delay. The building is practically a gift to Weymouth, and it seems to us it would be a fitting and gracious return if the people of the town were to show their appreciation by coming forward with the least possible delay with the comparatively small sum needed to equip the magnificent building which is so conspicuous an addition to the architectural ornaments of the town."

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 26TH.

Ventilation of Factories.

SIR WALTER FOSTER asked the Home Secretary if he had considered the First Report of the Departmental Committee appointed to inquire into the Ventilation of Factories and Workshops; and what steps he proposed to take to carry out the recommendations made therein.—Mr. AKERS-DOUGLAS replied: This report is receiving very careful consideration, and as a preliminary to deciding what action shall be taken on it I am having further trials made of the proposed new method of testing the atmosphere in factories.

Vibration on the Central London Railway.

Mr. H. D. GREENE asked the President of the Board of Trade if he could state when arrangements would be completed for stopping the annoyance and damage from vibration arising on the Central London Railway; and whether the Board of Trade would take steps to compel the adoption of the suggestions of its committee.—Mr. GERALD BALFOUR replied: The company have recently informed me that, in view of the suggestions made by the committee, they decided to substitute motor cars for the present locomotives; that tenders for the construction and equipment of the cars were let in May last; and that the contractors assure them that delivery of the cars will commence in the early part of next year.

THURSDAY, NOV. 27TH.

Employment of Civil Surgeons in the Army.

Captain NORTON asked the Secretary of State for War, in view of the fact that civil surgeons employed in South Africa as well as civil veterinary surgeons employed both at home and abroad and not holding commissions receive a gratuity, whether he could explain why civil surgeons who had been employed doing military duty at home were not entitled to the gratuity.—Lord STANLEY replied to the question saying: The civil surgeons employed in South Africa and civil veterinary surgeons employed at home were engaged under a contract, one of the conditions of which gave them a right to a gratuity of 61 days' pay on completion of 12 months' service or cessation of engagement. The civil surgeons employed at home were not engaged on such a contract, were employed purely as civilian surgeons, and therefore have no claim whatever to such gratuity.

Vaccination Exemption.

Mr. WEIR asked the Home Secretary whether his attention had been called to a recent decision of the magistrate at the Marylebone Police-court in which a person who claimed a certificate of exemption under the Vaccination Act in respect of a child born in August last was required to pay a fee of 1*s.* for the exemption certificate; and, seeing that this fee had to be paid by persons of the poorer classes who had conscientious objections to vaccination, would he state upon what ground a magistrate had power to make this charge for an exemption certificate?—Mr. AKERS-DOUGLAS replied: A fee such as that mentioned is charged for a certificate of exemption from vaccination in accordance with the ordinary law governing the charges made in connexion with proceedings before magistrates. The charge is not confined to this class of certificate. The magistrate has power in a proper case, on application, to remit fees.

MONDAY, DEC. 1ST.

Roscommon Union Hospital.

Mr. TULLY asked the Chief Secretary to the Lord Lieutenant of Ireland whether the Local Government Board would order a sworn inquiry into the state of things alleged to exist in the Roscommon Union Hospital at the last meeting of the guardians.—Mr. WYNDHAM replied that a sworn inquiry had been ordered.

Poor-law Medical Officers in Ireland and their Annual Vacation.

Dr. THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland if he was aware of the dissatisfaction at present prevailing amongst the medical officers of the Irish Poor-law service in consequence of the abrogation by the Local Government Board of its by-law granting the medical officers, as a right, four weeks' holiday in each year; and if he would give such directions as would cause the re-enactment of the by-law.—Mr. WYNDHAM replied: Article 28 of the Dispensary Regulations provides that each medical officer shall be allowed an annual vacation not exceeding four weeks, but since the regulation was made a court of law has held that it is not incumbent on a board of guardians to grant the full period of four weeks.

Provision for the Infirm in Irish Workhouses.

Dr. THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland, if he was aware that in some Irish workhouses the infirm inmates had to lie on trussel bedsteads with straw mattresses and pillows and were without properly qualified nurses or attendance; and if he would direct an inquiry into the condition of these institutions.—Mr. WYNDHAM replied: If the hon. Member will kindly give particulars of the cases he refers to, inquiries will be made into the matter. The Board is doing all in its power to ameliorate the condition of the sick and infirm in workhouses.

Civil Surgeons and the War Office Gratuity.

Captain NORTON asked the Secretary of State for War, having regard to the fact that civilian veterinary surgeons employed at home by the military authorities during the recent war were to receive certain gratuities under the Royal Warrant, published in Army Order 186, whether he would explain why civilian surgeons were not to receive these gratuities; and whether he would lay upon the table a copy of the agreements under which each class was employed.—Lord STANLEY, for Mr. BRODRICK, replied: The civilian veterinary surgeons employed at home do not get the gratuity referred to. My right hon. friend is not willing to lay these agreements on the table, but I shall be most happy to show copies of them privately to the hon. Member.

TUESDAY, DEC. 2ND.

Poor-law Medical Service in Ireland.

Mr. TULLY asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state what steps had been taken to fill up the vacant dispensary appointments in the counties of Waterford and Wexford, for which no medical candidates offered themselves; and whether he could state how long this state of matters had continued and when it would be terminated.—Mr. GEORGE WYNDHAM replied: There are two vacancies: one in county Waterford occurred in August and in this case the guardians are considering a proposal to rearrange the vacant and an adjoining district. The vacancy in county Wexford occurred at the end of June. An election to fill this vacancy is fixed to take place on Saturday next.

WEDNESDAY, DEC. 3RD.

Treatment of Fever in the Island of Lewis.

Mr. WEIR asked the Lord Advocate whether he was aware that the outbreak of typhus and typhoid fever at North Tolsta, Island of Lewis, had already resulted in upwards of 50 cases, as many as six persons in one family being affected, would he state what steps are being taken to stamp out the disease, whether patients were isolated, and, if so, where?—The LORD ADVOCATE replied: The numbers mentioned in my

answer given on Nov. 20th referred to the period since Oct. 1st only. In the early summer the cases were so mild that they attracted little attention, but when they proved to be infectious the local authority instituted an inspection, saw that all isolation practicable was carried out, strongly urged ablution of persons, and supplied disinfectants. In cases of typhoid fever drains were cleaned out. Tolsta being 13 miles distant from Stornoway removal to hospital was not considered advisable, especially in view of the difficulties of transit in such a district.

BOOKS, ETC., RECEIVED.

AMERICAN DERMATOLOGICAL ASSOCIATION (Secretary, 100, State-street, Chicago, U.S.A.).

Transactions of the American Dermatological Association at its Twenty-fifth Annual Meeting, held in Chicago, Ill., May 30th and 31st and June 1st, 1901. Official Report of the Proceedings by Frank Hugh Montgomery, M.D., Secretary. Price not stated.

ARNOLD, EDWARD, 37, Bedford-street, Strand, W.C. (CHARLES SCRIBNER'S SONS, New York.)

The Elements of Experimental Phonetics. By Edward Wheeler Scripture. Price 21*s.* net.

BAILLIÈRE, J. B., ET FILS, 10, Rue Hautefeuille, Paris.

La Profession Médicale au commencement du XXe. Siècle. Par Paul Brouardel, Doyen Honoraire, Professeur de Médecine légale à la Faculté de Médecine de Paris, Membre de l'Institut. Price 3 fr. 50

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

Selected Papers on Operative and Clinical Surgery. By the late William Stokes, M.D., M.Ch. (Univ. Dub.), F.R.C.S.I., Knight, Surgeon in Ordinary to Her Majesty Queen Victoria in Ireland. Edited by William Taylor, B.A., M.B. (Univ. Dub.), F.R.C.S.I. With a Memoir of the Author by Alexander Ogston, M.D., Regius Professor of Surgery, University of Aberdeen; Surgeon in Ordinary to the King in Scotland. Price 2*s.* net.

COLLINGRIDGE, W. H. and L., 148 and 149, Aldersgate-street, E.C.

The Amateur's Greenhouse. By T. W. Sanders, F.L.S., F.R.H.S. Price 5*s.* net.

CHAMBERS, W. AND R., LIMITED, London and Edinburgh.

Organic Chemistry. By W. H. Perkin, Jun., Ph.D., F.R.S., Professor of Organic Chemistry in the Owens College, Manchester; and F. Stanley Kipping, Ph.D., D.Sc. Lond., F.R.S., Professor of Chemistry in University College, Nottingham. New and revised edition. Price 7*s.* 6*d.*

CONSTABLE, ARCHIBALD AND CO., LIMITED, 2, Whitehall-gardens, S.W.

The Prevention of Disease. Translated from the German. With an introduction by H. Timbrell Bulstrode, M.A., M.D. Cantab., D.P.H. Price 31*s.* 6*d.* net.

The Shroud of Christ. By Paul Vignon, D.Sc. (Fr.). Translated from the French. With nine photogravure and collotype Plates and 38 Illustrations in the text. Price 12*s.* 6*d.* net.

FANNIN AND CO., LIMITED, 41, Grafton-street, Dublin (BAILLIÈRE, TINDALL, AND COX, London).

Transactions of the Royal Academy of Medicine in Ireland. Vol. XX. Edited by John B. Story, M.B., F.R.C.S., General Secretary.

FISCHER, GUSTAV, Jena.

Die Malaria. Studien eines Zoologen. Von Battista Grassi, Ordentlicher Professor der Vergleichenden Anatomie in Rom. Nachtrag zur zweiten vermehrten Auflage. Price 2 M.

Die Biogenhypothese. Von Max Verworn, Professor der Physiologie und Direktor des physiologischen Instituts an der Universität Göttingen. Price 2·50 M.

GRIFFIN, CHARLES, AND COMPANY, Limited, Exeter-street, Strand, W.C.

Year-book of the Scientific and Learned Societies of Great Britain and Ireland. 1902. Price 7*s.* 6*d.*

HEINEMANN, WILLIAM, 21, Bedford-street, W.C.

Mrs. Craddock. By William Somerset Maugham, author of "Liza of Lambeth," &c. Price 6*s.*

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Handbuch der Krankenversorgung und Krankenpflege. Herausgegeben von Dr. Georg Liebe, Dr. Paul Jacobsohn, Professor Dr. George Meyer. Zweiter Band. Zweite Abtheilung. Price M.27.

Felix Hoppe-Seyler's Handbuch der Physiologisch und Pathologisch-Chemischen Analyse. Bearbeitet von Dr. H. Thierfelder, a.o. Professor und Vorsteher der chemischen Abtheilung des Physiologischen Instituts der Universität Berlin. Siebente Auflage. Price M. 16.

HOEPLI, ULRICO, Milan.

Luce e Salute. Fototerapia; Radioterapia. Del Dott. Angelo Bellini, Dirigente all' Istituto di Fototerapia ed Elettroterapia in Milan. Price 3·50 L.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

Practical Diagnosis. Fifth edition. Revised and enlarged. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia. Price 21*s.* net.

The Diseases of Infancy and Childhood. By L. Emmett Holt, M.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York. Second edition, revised and enlarged. Price 25*s.* net.

LA SEMANA MÉDICA (EMILIO SPINELLI), 737, Callao, Buenos Aires.

La Leche de Consumo en Buenos Aires. Por el José Badia, Director del Laboratorio. Price not stated.

LEWIS, H. K., 136, Gower-street, W.C.

The Principles of Bacteriology. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology and Director of the Laboratory of Hygiene, University of Pennsylvania. Sixth edition. Price 12*s.* 6*d.* net.

J. P. LIPPINCOTT COMPANY, 5, Henrietta-street, Covent-garden, W.C.

International Clinics. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U.S.A. Volume iii. Twelfth series, 1902. Price 10*s.* 6*d.*

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, E.C.

An Essay on Laughter: its Forms, its Causes, its Development, and its Value. By James Sully, M.A., LL.D., author of "The Human Mind," "Studies of Childhood," &c. Price 12*s.* 6*d.* net.

The Transactions of the Clinical Society of London. Volume XXXV. Price not stated.

The Morals of Suicide. Volume ii. By Rev. J. Gurnhill, B.A., Scholar and Moral Science Prizeman of Emmanuel College, Cambridge. Price 5*s.* net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C. (FOR THE UNIVERSITY PRESS OF LIVERPOOL).

Second Progress Report of the Campaign against Mosquitoes in Sierra Leone. By M. Logan Taylor, M.B., of the Liverpool School of Tropical Medicine. Dated Liverpool, Sept. 15th, 1902. Price 1*s.*

Report on the Sanitary Conditions of Cape Coast Town, with Suggestions as to Improvement of Same. By Dr. M. Logan Taylor, M.B., Ch.B. Price 1*s.*

MACLAREN AND SONS, 37 and 38, Shoe-lane, London, E.C.

The Testing of Chemical Reagents for Purity. By Dr. C. Krauch, Chemist to the firm of E. Merck, Darmstadt. Authorised translation of the third edition, by J. A. Williamson, F.C.S., and L. W. Dupré. Price 12*s.* 6*d.* net.

MACMILLAN AND CO., LIMITED, London.

Text-book of Palæontology. By Karl A. Von Zittel, Professor of Geology and Palæontology in the University of Münich. Translated and edited by Charles R. Eastman, Ph.D. of Cambridge, Mass. Volume ii. Price 10*s.* net.

MASSON ET CIE., Boulevard Saint-Germain, 120, Paris.

L'Energie de Croissance et les Lécithines dans les Décoctions de Céréales. Par le Dr. Maurice Springer, Ancien Chef de Laboratoire à la Faculté de Médecine de Paris. Prix, broché, 2 fr. 50; cartonné 3 fr.

MURRAY, JOHN, Albemarle-street, W.

A Naturalist in Indian Seas: or Four Years with the Royal Indian Marine Survey Ship *Investigator*. By A. Alcock, M.B., LL.D., F.R.S. Price 18*s.* net.

RICHARDS, GRANT, 48, Leicester-square, W.C.

Froggy Folk. By G. E. H. (Coloured pictures and rhymes.) Price 3*s.* 6*d.*

SAUNDERS, W. B., AND CO. Henrietta-street, Covent-garden, W.C.

The International Text-book of Surgery. By British and American Authors. Edited by A. Pearce Gould, M.S., F.R.C.S., and J. Collins Warren, M.D., LL.D., Hon. F.R.C.S. Eng. Second edition, thoroughly revised. Vol. I., General Surgery; Vol. II., Regional Surgery. Price 21*s.* net per volume.

SLEESWIJK, J. A., Amsterdam.

Der Kampf des Tierischen "Organismus" mit der Pflanzlichen "Zelle." Von Dr. R. Sleeswijk, in Alkmaar (Holland). Price 3*s.*

SOCIÉTÉ D'EDITIONS SCIENTIFIQUES ET LITTÉRAIRES (F. R. DE RUDEVAL ET CIE), 4, Rue Antoine Dubois (VIe.), Paris.

La Logique Morbide: L'Analyse Mentale. Par N. Vaschide, Chef des Travaux du Laboratoire de Psychologie Expérimentale de l'École des Hautes-Etudes (Asile de Villejuif) et Cl. Vurpas, Interne des Asiles de la Seine (Asile de Villejuif). Préface par M. Th. Ribot, Membre de l'Institut, Professeur au Collège de France. Price 4 francs.

SPON, E. AND F. N., Limited, 125, Strand, W.C.

Natural and Artificial Sewage Treatment. By Lieutenant-Colonel Alfred S. Jones, V.C., A.M.I.C.E., and H. Alfred Roechling, M.I.C.E., F.G.S., &c. Price not stated.

STUBER, A. (C. Kabitzsch), Würzburg.

Die Physikalisch-diätetische Therapie in der ärztlichen Praxis. Von Dr. med. Bernhard Presch, Arzt in Hannover. Lieferung II.

UNIVERSITY OF LONDON, South Kensington, S.W.

The Calendar for the Year 1902–1903. Vol I. (History, Statutes, Officers, Examiners, &c.), price 3*s.* 6*d.* net. Vol. II. (Curricula, &c., for Internal Students), price 5*s.* net. Vol. III. (Regulations and Examination Papers, 1901–2, for External Students), price 5*s.* net.

UNWIN, T. FISHER, 11, Paternoster-square, E.C.

The Green Republic: A Visit to South Tyrone. By A. P. A. O'Gara, M.D. Price 6*s.*

Motor Cars and the Application of Mechanical Power to Road Vehicles. By Rhys Jenkins, M.I.M.E. Price 21*s.* net.

WILLIAMS AND NORGATE, 14, Henrietta-street, Govent Garden, W.C.

Cancers and other Tumours of the Breast: Researches showing their true Seat and Cause. By Charles Creighton, M.D., sometime Demonstrator of Anatomy, Cambridge University. Price 20*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ADAMS, J. E., L.R.C.P. Lond., M.R.C.S., has been appointed Clinical Assistant in the Throat Department at St. Thomas's Hospital.

BOYCOTT, A. E., M.A., M.B., B.Ch. Oxon., B.Sc. Oxon., has been appointed Assistant House Physician to St. Thomas's Hospital.

BRADFORD, A. B., M.B., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

BARÉ, SIDNEY, M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Brantham District of the county of Suffolk.

BROWN, A. T., M.B., C.M. Aberd., has been re-appointed Medical Officer of Health to the Horbury Urban District Council.

BURGHARD, F. F., M.B. Lond., F.R.C.S. Eng., has been appointed Teacher of Operative Surgery to King's College.

CARLESS, A., M.B. Lond., F.R.C.S. Eng., has been appointed Professor of Surgery to King's College.

CHEYNE, W. WATSON, C.B., F.R.S., has been appointed Professor of Clinical Surgery to King's College.

CHILD, F. J., M.A., M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Senior Obstetric House Physician to St. Thomas's Hospital.

COATES, J., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

EVANS, R. W. J., L.R.C.P. Edin., L.R.C.S. Edin., has been re-appointed Medical Officer of Health to the Corporation of Wrexham.

GALE, A. K., M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer of Health to the Norton Rural District Council.

GRAVELY, F., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health to the Chorley Rural District Council.

HAMILTON, A. D., M.B., L.R.C.P. Lond., has been appointed House Surgeon to St. Thomas's Hospital.

HARTIGAN, T. J. P., F.R.C.S. Eng., has been appointed Pathologist to the Hospital for Diseases of the Skin, Stamford-street, London.

HARVEY, FRANK, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for Padstow.

HEDLEY, J. P., M.A., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

HEIGS, T. BARRETT, M.B., B.Ch., has been appointed Assistant House Surgeon to the Sussex County Hospital, Brighton.

HENDERSON, T. B., M.A., M.B., B.Ch. Oxon., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

HILDERSHEIM, O., B.A., M.B., B.Ch. Oxon., has been appointed Clinical Assistant in the Electrical Department at St. Thomas's Hospital.

HILL, W., B.A. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

HUDSON, A. C., M.A., M.B., B.C. Cantab., has been appointed House Surgeon to St. Thomas's Hospital.

JONES, B. S., L.R.C.P. Lond., M.R.C.S., has been appointed Clinical Assistant in the Ear Department at St. Thomas's Hospital.

JOYNES, F. J., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health to the Dursley Rural District Council.

MAYBOROBATO, A., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

MCNAUGHTON, J. G., M.D., C.M., M.R.C.P. Edin., has been appointed Pathologist and Assistant Medical Officer to the Hospital for Consumption and Diseases of the Throat and Chest, Manchester.

NICOL, A., M.D. Aberd., has been appointed Certifying Surgeon under the Factory Act for the Inverurie District of the county of Aberdeen.

PETTEY, T., M.D. Edin., F.R.C.S. Eng., has been appointed Medical Officer to the First District of the Easthourne Union.

PORTEOUS, HERBERT LLEWELLYN, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Sapperton District of the Cirencester Union, vice Mr. E. Brown, resigned.

ROE, J. W., B.A., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

SCOTT, S. G., M.A., M.B., B.Ch. Oxon., has been appointed Clinical Assistant in the Ear and Throat Departments at St. Thomas's Hospital.

SEARS, C. N., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Physician to St. Thomas's Hospital.

SEDGWICK, C. H., M.A., M.B., B.C. Cantab., has been appointed House Physician to St. Thomas's Hospital.

SHIPMAN, G. A. C., M.A., M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

SPURRIER, H., B.A. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

WHEEN, C., B.A. Oxon., L.R.C.P. Lond., M.R.C.S., has been appointed Clinical Assistant in the Skin Department at St. Thomas's Hospital.

YARRED, W. H. HARWOOD, B.Sc. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—House Physician. Salary at rate of £30 a year, with board, lodging, and washing.

ASTON UNION WORKHOUSE AND COTTAGE HOMES.—Medical Officer and Public Vaccinator. Salary £350 per annum and fees, with unfurnished residence, coal, gas, and water.

BIRMINGHAM GENERAL HOSPITAL.—Resident Surgical Officer. Salary £100 per annum, with residence, board, and washing.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 a year, with board and residence.

BRISTOL GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, &c.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, board, and laundry.

CHURCH OF SCOTLAND'S WOMEN'S ASSOCIATION FOR FOREIGN MISSIONS, 22, Queen-street, Edinburgh.—Lady Medical Missionary for Punjab.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—District Surgeon to the Hospital for South Tottenham.

DERBYSHIRE ROYAL INFIRMARY.—Honorary Surgeon.

ESSEX AND COLCHESTER HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Senior House Physician (salary at rate of £60 per annum). Also Second and Third House Surgeons (salary at rate of £30 per annum), each for six months, with board, lodging, and washing in each case.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, lodging, and washing.

GUARDIANS OF THE POOR OF THE PARISH OF PADDINGTON.—Medical Officer for the South District. Salary £75 per annum and fees.

GUEST HOSPITAL, Dudley.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

HERTFORDSHIRE COUNTY ASYLUM, Hill End, St. Albans.—Junior Assistant Medical Officer, unmarried. Salary £160 a year, with board, apartments, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Resident Medical Superintendent. Salary 100 guineas per annum, with board and residence.

HOSPITAL FOR WOMEN, Soho-square.—House Physician for six months. Salary £30 for that period.

INFIRMARY FOR CONSUMPTION AND DISEASES OF THE CHEST AND THROAT, 26, Margaret-street, Cavendish-square, W.—Two Physicians to Out-patients.

LIVERPOOL (CITY OF) INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and washing.

LIVERPOOL HOSPITAL FOR CANCER AND SKIN DISEASES.—Honorary Anæsthetist.

MANCHESTER ROYAL INFIRMARY CONVALESCENT HOSPITAL, Cheadle.—Resident Medical Officer, unmarried. Salary £150 per annum, with board and residence.

MILROY LECTURES ON STATE MEDICINE AND PUBLIC HEALTH.—Milroy Lecturer for 1904.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, attendance, and washing.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £75 per annum, with board, residence, and washing.

PRESTON, LANCASHIRE, COUNTY ASYLUM, Whittingham.—Junior Assistant Medical Officer, unmarried. Salary £150, with apartments, board, washing, and attendance.

ROCHDALE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, and washing.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £100 per annum, with rooms, board, and washing.

ST. BARTHOLOMEW'S HOSPITAL.—Surgeon; also Physician.

SALOP INFIRMARY, Shrewsbury.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

SCARBOROUGH (BOROUGH OF).—Medical Officer of Health. Salary £350 per annum rising to £400.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Secretary. Salary £300 per annum.

SOUTHAMPTON INCORPORATION NEW WORKHOUSE INFIRMARY, Shirley Warren.—Resident Assistant Medical Officer. Salary £100 per annum, with apartments, rations, washing, and attendance.

STOKE-UPON-TRENT UNION WORKHOUSE.—Resident Medical Officer. Salary £150, rising to £200, with board, washing, and apartments.

SWANSEA GENERAL AND EYE HOSPITAL.—Resident Medical Officer for twelve months. Salary £75, with board, apartments, washing, and attendance.

UNIVERSITY OF EDINBURGH.—Examinership in Zoology.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Medical Officer to the Department for Diseases of the Skin.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon, unmarried. Salary £80 a year, with board, residence, and laundry.

Births, Marriages, and Deaths.

MARRIAGES.

CANT—PINNEY.—On Wednesday, Nov. 26th, at the parish church, Coleshill, Warwickshire, Arthur Cant, M.B., B.Ch., M.R.C.S., L.R.C.P., of Coleshill, to Ann Eliza Mary Digby Pinney, only daughter of the Rev. J. C. Pinney, M.A., of Coleshill Vicarage. The ceremony was performed by the bride's father, the Rev. J. C. Pinney, M.A., assisted by the Rev. Baldwin Pinney, B.A., brother of the bride. The service was fully choral.

RICHARDS—KNOWLES.—On Nov. 29th, at St. Saviour's, Westgate-on-Sea, Joseph Stewart Richards, M.D., B.S., D.P.H., St. Saviour's Infirmary, East Dulwich, to Hilda, third daughter of Walter Thomas Knowles of Comberton, Westgate-on-Sea, and Homleigh, South Croydon.

DEATHS.

BUCKLE.—On Nov. 27th, at Willesden, suddenly, William Turberville Buckle, M.B. Lond., aged 58 years.

LITTLE.—On Nov. 27th, at Bank House, Buglawton, Congleton, David Little, M.D. Edin., F.R.C.S.E., of St. John-street, Manchester, and Court Heath, Buxton, aged 82 years.

STEPHEN.—On Nov. 28th, at Evelyn-gardens, S.W., George Caldwell Stephen, M.D. McGill (Mont.), L.R.C.P. Lond., in his 43rd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HOSPITALS AND HOSPITAL ABUSE.

WE have received the November number of the *Commonwealth*. This is a Christian social magazine and is edited by the Rev. Canon Henry Scott Holland. In it is running a series of articles called "Joints in Our Social Armour," by the Rev. C. F. Rogers, and the fifth number of the series, which is before us, is called "The Cruelties of Charity." Mr. Rogers tells us that he was in charge of a London suburban parish for three months and during that time was constantly applied to for dispensary tickets. Being a conscientious man Mr. Rogers did his best to find out whether applicants were worthy recipients of charity or no. He gives particulars of 12 cases, only one of which was really deserving. In one case a woman applied for a letter because her husband had been out of work. Mr. Rogers made inquiries and found that the man had just come out of prison, whither he was sent for knocking his wife about. Mr. Rogers thereupon communicated with the officials of the dispensary, who allowed that the charity was abused, but said that they were not prepared to make any drastic changes. Mr. Rogers lays particular stress on the careless manner in which the local clergy signed letters as also did the district visitors. We cordially agree with Mr. Rogers. Every medical man who has had any experience of free dispensary work knows how that form of charity is abused. We notice that the editor of the *Commonwealth* (p. 342) allows that the dispensary system does pauperise the poor, but he argues that nowadays there is a danger lest we should lay too much stress on this aspect of the problem of charity. In our experience of work among the poor, the really poor and deserving hardly ever apply for relief; they have to be sought out. On the same page of his magazine Canon Scott Holland makes some statements about hospitals which we can only stigmatise as incorrect, to use a mild expression. In hospitals, he says, "the poor are often herded like cattle, kept waiting unnecessarily for hours, spoken to in terms which would be resented by any decently bred pig, examined and operated upon in full view of each other, and altogether treated in a manner so entirely materialistic that all trace of humaneness has departed from it." That patients are kept waiting for hours we know full well, but how can it be helped? Has Canon Scott Holland ever attended the surgery of a large hospital on a Monday morning? Does he know of the crowds who apply for relief? Has he seen the weary and overworked casualty physician sitting at his desk from 9 o'clock until 1 or later? Where are patients examined and operated on in full view of each other? We do not mean to say that trivial operations such as extracting a splinter or a needle from the finger are never done in view of another patient, but has the reverend gentleman ever seen a patient operated upon under an anæsthetic in view of another? Again, "examined" is a wide term, but no serious or detailed examination is, in our experience, ever made on one patient in view of another except perhaps in the case of a mother and child. That hospitals are overcrowded and that out-patients have to wait is true, but until hospitals have twice their present income, twice their present accommodation, and four times their present staff, and while everyone has a free right to apply for relief, this state of matters will continue. The accusations of inhumanity and callousness ought not to have been made, and seem to show that the editor of the *Commonwealth* takes no serious view of his responsibilities to the public, but pants for sensationalism.

THE OPTIMUM FILE.

THE Sanitary and Oeconomic Association, Limited, of Gloucester, have submitted to us specimens of their Optimum file. These files, which are made in two sizes, are very neat and handy. The papers are held firmly and any one can be detached without disturbing the rest. The price of the small-sized file is 6*d.*, of the larger 1*s.*

NEW HYGIENIC UNDERWEAR FOR A NEW GAME.

WE have received an illustrated pamphlet setting forth the claims of a new patent hygienic stockinet underwear, the invention of a foreign medical man, Dr. Rasurel. The underwear is stated to be composed of pure natural wool and peat and the prices, which are given, appear reasonable, but as the articles themselves have not been submitted to us we cannot speak with any authority upon either point. The pamphlet has not been tampered with by any British translator but is obviously the unadulterated work of a Gaul. This is not so much proved by such a statement as that the underwear "is indispensable to writers" as by the convulsing illustration of a cricket match. Here the batsman about to receive the ball has taken block midway between his wickets and square leg and is facing towards cover. Possibly his indifference to guard is due to three facts: (1) that as the wickets are only as high as his pads the chance of the bowler hitting them is slender; (2) that as they are about a foot apart it is more than even betting that a straight ball would go through them without doing any damage; and (3) that the wicket-keeper is keeping with only one hand, and that the left hand. The bowler, under the eye of an umpire standing in the long field, and having the telegraph-board and scorer arranged behind his arm, would seem to enjoy freedom and some rather unusual chances, but he is badly served by his men. Mid-on and mid-off, crouching forward and clasping their knees in the classic attitude of the alert field, have their sterns towards the batsman who is to receive the ball, being intent in watching the non-striker! The designer of this picture is a M. Lyon and we beg him to send a few of his studies of the British national game to certain evening papers whose speculations upon averages and records form decidedly dreary reading. No one can look at M. Lyon's pictures and be dreary.

"THE LANCET SPECIAL ANALYTICAL COMMISSION ON BRANDY."

THE following dialogue between the judge and a witness in an action brought to recover £6 15*s.*, the value of "three cases of cognac," in Southwark County court on Dec. 2nd, adds decided colour to the remarks of THE LANCET Special Analytical Commission upon this subject last week:—

The Judge: Do you know what brandy is?
The Witness: Yes; I have been brought up in a distillery.
The Judge: What is brandy distilled from?
The Witness: Spirit.
The Judge: But how is the spirit obtained?
The Witness: Some is potato spirit, some rice, and some beetroot.
The Judge: What about the grape?
The Witness: For 45*s.* we do not put many grapes in, but a sort of cheap grape grown like currants.
The Judge: Not grapes like one sees in English hothouses?
The Witness: Oh, no; a wild, cheap grape. Cognac brandy is up to £5 a bottle, and this is only 45*s.* a case, out of which I have to lay out 22*s.* for duty and carriage before I sell it.
The Judge: How is British brandy made?
The Witness: From potato spirit, which is the cheapest.
The Judge: But what is added to give it flavour?
The Witness: Some people put sherry and others cognac essence which is made by chemists.
The Judge: From grapes?
The Witness: I can't tell you. I never use the stuff.
The Judge: And this is the stuff the great "B.P." get when they buy brandy. The officers of the court generally look at things and sample them for me; but they tell me they don't taste brandy, and I am very glad they don't now.

The judge decided that the "brandy" must be paid for.

PTOMAINE POISONING.

To the Editors of THE LANCET.

SIRS,—Although there has been quite an epidemic of fatal cases of ptomaine poisoning of late the number is small as compared with the number of those arising every day but which do not come to a fatal issue. These cases which, although dismissed lightly as cases of simple diarrhœa or biliousness because of their only presenting one or two symptoms, and those not serious in themselves, are none the less cases of ptomaine poisoning and as such are worthy of careful consideration and investigation. One mild case thoroughly investigated and its source traced and cut off may be the means of preventing a recurrence of a more serious nature. Although these cases chiefly occur amongst the poorer classes (and it is not to be wondered at considering their arrangements for keeping their food, and it is a question of food preservation), still they are not confined to that class and I have had within one month four cases from one hotel, all traceable to the eating of warmed-up food from one to three days after the initial cooking. As the warming is not of itself necessarily dangerous it must have been that the food had been improperly kept in the meantime. One case persisted for two months, narrowly escaping a fatal issue.

Instructions for the safe keeping and pure preservation of food should be more thoroughly distributed amongst the ignorant and careless householder. I have seen in houses rented at from £70 to £100 food kept in pantries situated over closets used as larders, and fresh meat hanging side by side with decayed remnants that should have long before been consigned to the fire. Some little scheme for food preservation in schedule form might easily be circulated by every local authority through its medical officer of health.

I am, Sirs, yours faithfully,

Harrogate, Nov. 22nd, 1902. HARRY CLOUGH.

MOTOR CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—As I have had several letters from practitioners asking particulars of my experience with motor-cars, it struck me that it might prove of interest to some of your readers if I gave you an outline such. There are several cars on the market, all possessing good points, but I shall simply deal with the one which I possess—a 4½ h.-p. Stirling light dogcart, purchased 11 months ago. Since December, 1901, it has been used daily in a country town and mining district for house-to-house visitation. The roads are not of the best description and hilly in places. During one fortnight only has it been out of use owing to a serious tear of one of the tyres. The damage to the tyre should not have caused such a delay, but I wished to experiment with a particular make of pneumatic and had to wait that time till I got it.

I have never been delayed on the road for more than 15 minutes and that only on one or two occasions. The important point is to keep

one's car always in good order. Regarding the starting of the engine, if the various parts are kept properly adjusted (and it is remarkable how soon the principle of the thing is picked up) there is no difficulty. The engine is always stopped whilst I am paying a visit and the lad starts the moment he see me approaching. I find this an advantage, as the engine being a slow-running one (700 revolutions per minute) the exhaust makes a little more noise when the car is stationary than do some other makes which run up to 1500 revolutions per minute.

The longest journey I have made in one day is 140 miles, during which run it travelled 60 miles in the night time without stopping. Taking 4400 miles as a very moderate estimate of the mileage up to date, my total cost has been 2½*d.* per mile. The machine cost 165 guineas and the details of upkeep are as follows:—

	£	*s.*	*d.*		£	*s.*	*d.*
Licence	2	2	0	New chains (a fortnight ago)	3	0	0
Fire insurance	1	6	0				
Petrol	12	0	0	Plugs for electric ignition	0	18	0
Oil and grease	2	0	0				
Two dry batteries	1	10	0	Small mechanical repairs	0	17	6
New tyres and tyre repairs	20	0	0	Total	£43	13	6

The car is kept in good order and generally attended to by a youth previously accustomed to horses and who rapidly learned his new business. As to the life of the car I can only judge from appearances, but up to date the machine shows hardly any appreciable wear, the bearings and gear wheels being in first-class order, the secret of this being to my mind prompt attention to little matters. I was originally induced to adopt this mode of conveyance on the favourable report of a medical friend who practises in a hilly and scattered district in the north of Scotland. Although sceptical at first as to its suitability for my purpose I am now quite convinced that this car is trustworthy, and that it can easily replace two horses in a medical practice.

I am, Sirs, yours faithfully,

Hamilton, Nov. 15th, 1902. J. MURRAY YOUNG.

To the Editors of THE LANCET.

SIRS,—Now that the motor-car is so rapidly taking the place of the horse, especially for country practitioners, no doubt it would greatly interest your readers to hear that I have now completed 44,000 miles in a little over five years. Any help I could give to contemplating purchasers I shall be most happy to render.

I am, Sirs, yours faithfully,

St. Albans, Herts, Nov. 29th, 1902. T. PRICHARD ROBERTS.

To the Editors of THE LANCET.

SIRS,—Will some of your readers who use a motor-car kindly give some information as to its durability and reliability? The initial expenditure becomes a very serious item if the car is going to be practically used up after a year or two. Information as to the frequency of unexpected stoppages would also be valuable to those contemplating the purchase of a car.

I am, Sirs, yours faithfully,

Dec. 2nd, 1902. MOTOR.

INTRACTABLE THREAD-WORMS.

To the Editors of THE LANCET.

SIRS,—In reply to "M.," who asks for advice in this connexion in THE LANCET of Nov. 15th, p. 1366, I would suggest that the secret lies rather in the method of administration than in the actual vermicide used. In long-standing cases the worms flourish high up in the colon, even, as some recent cases have shown, in the vermiform appendix. It is obvious that ordinary injections will kill only those worms that infest the lower reaches of the bowel, while higher up they will continue to flourish. It appears, however, that the ova do not hatch out in the colon but only in the stomach; long-continued trouble from these parasites must therefore, if this be admitted, depend on continually repeated auto-infection. If this view is sound the avoidance of scratching and the practice of scrupulous cleanliness will result in the gradual disappearance of the worms as the existing brood dies out. Advice on this point should always be given; but few adult patients with cleanly habits will admit the possibility of auto-infection; and anyhow more active and speedy measures are demanded by the patient. In a young adult woman, who had suffered for two years and whom ordinary measures failed to cure, the following course of treatment proved successful. Overnight a pill of colocynth and mercury was administered. In the morning (fasting) a saline draught, two teaspoonfuls of sodium phosphate in a tumblerful of hot water, was taken. For breakfast and luncheon only a small quantity of bread and milk was given, and to avoid risk of faintness from the purgation and light diet the patient was kept in bed. By these means the colon was thoroughly emptied so that the vermicide might act more efficiently. At three in the afternoon a large injection of quassia was given very slowly with the object of completely filling the large intestine with the solution. This can be effected only by a skilled hand. This latter was prepared by macerating a small handful of quassia chips for half an hour, decanting, and adding sufficient hot water to raise the temperature to 100° F. By giving the injection very slowly through a red rubber catheter passed several inches into the bowel it was possible to give several pints, which were retained as long as possible. After the quassia solution had been completely evacuated another injection was administered, also through a long tube, consisting of half an ounce of turpentine in six ounces of mucilage of starch. This also was to be retained as long as possible. On one occasion it was retained till late in the evening and a simple enema was given to bring it away, as I feared too much might be absorbed. The anus and lower inch of the rectum were well anointed with simple ointment to prevent local irritation from the turpentine. The turpentine injection is apt to cause moderate griping. This course of treatment was carried out once a week. Throughout the period of treatment a pill of assafœtida with a little aloes was given every night to keep the bowels a little loose. Towards the end of the first and second week the worms gave some trouble but after the third time of administration the symptoms disappeared, never to return. If "M" adopts this plan of treatment he will confer an obligation on me by letting me know the result.

I am, Sirs, yours truly,

M. EDEN PAUL.

Grove House, Church End, Finchley, Nov. 20th, 1902.

Medico.—The regulations for the employment of unqualified assistants, as sanctioned by the General Medical Council, will be found in THE LANCET, Nov. 27th, 1897, p. 1424. The assistant in question should only attend midwifery cases under the direct supervision of his principal.

Mr. James Dizon is recommended to consult a surgeon. The condition is sometimes susceptible of great improvement. He has our sympathy but we do not give medical advice.

A.R.A.—"Manuel pratique de l'Analyse des Alcools et des Spiriteux, par C. Giraud et L. Cuniasse. Paris: Masson et Cie., 120, Boulevard St. Germain.

Continual Subscriber is justified in describing himself on his door-plate as a physician and surgeon.

Adelaide should apply to the Dean of the Medical Faculty, University College, Dundee.

Enquirer will find his question dealt with in a leading article this week.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (13th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (8th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Discussion on the Surgical Treatment of Hæmatemesis (opened by Mr. Mayo Robson and taken part in by Mr. H. Allingham, Mr. A. E. Barker, Mr. Mansell Moullin, Mr. A. M. Sheild, and Mr. F. C. Wallis).

SOCIETY OF ARTS (John-street, Adelphi, W.C.).—8 P.M. Prof. V. B. Lewes: The Future of Coal Gas and Allied Illuminants. (Cantor Lecture.)

TUESDAY (9th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. E. Cautley and Mr. C. T. Dent: Congenital Hypertrophic Stenosis of the Pylorus and its Treatment by Pyloroplasty (illustrated by means of the Epidiascope).

WEDNESDAY (10th).—PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Adjourned Discussion on Mr. J. C. Umney's paper on Drug Standards.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Clinical Evening.

THURSDAY (11th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown. Paper:—Mr. S. Bishop: Procidentia Uteri, with Special Reference to an Operation upon the Sacro-uterine Ligaments.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—8 P.M. Clinical Evening. Cases will be shown by Mr. Mayou, Dr. Edridge-Green, Mr. C. Blair, Dr. B. Potter, Dr. E. Maddox, Mr. S. Stephenson, Mr. N. C. Ridley, and Mr. E. T. Collins.

FRIDAY (12th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5 P.M. Special Meeting. Discussion on Tuberculous Peritonitis.

SOUTH-WEST LONDON MEDICAL SOCIETY (Bolingbroke Hospital, Wandsworth Common).—8.45 P.M. Paper:—Dr. C. O. Hawthorne: The Diagnostic Value of the Visual Field.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. S. Paget: The Subcutaneous Injection of Paraffin in Cases of Nasal Deformity.—Dr. W. Carr and Mr. E. Roughton: Typhoid Fever, Perforation, Laparotomy, Death.—Mr. A. A. Bowlby: A Second Case of Laparotomy for Perforation in Typhoid Fever, Recovery.—Mr. H. J. Waring (introduced by Mr. A. A. Bowlby): Five Cases of Typhoid Perforation treated by Laparotomy.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Dunn: Iritis.

TUESDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. S. Tuke: Mental Diseases in Middle Life and Old Age.

WESTMINSTER HOSPITAL (Broad Sanctuary, S.W.).—4.30 P.M. Mr. Paton: Surgical Cases. (Post-Graduate Clinical Demonstration.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Sir W. Gowers.

WEDNESDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. H. Tubby: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Shuter: Ether Administration.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Latham: Excavation of the Lung and its Treatment.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Discussion on Drain Testing (opened by Dr. L. C. Parkes, followed by Mr. J. O. Smith and Mr. W. C. Tyndale and a general discussion).

THURSDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: Fractures in and near the Shoulder Joint.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Colman: Infantile Scurvy.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration of Surgical Cases. (Post-Graduate Course.)

FRIDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Lake: Clinique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Indigestion.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 4th, 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Nov. 28	29·28	S.W.	...	48	50	46	48	50	Overcast
,, 29	29·34	S.W.	0·28	62	50	43	46	47	Cloudy
,, 30	29·40	E.	0·14	53	48	43	48	48	Raining
Dec. 1	29·60	S.E.	0·42	52	51	45	47	48	Overcast
,, 2	29·44	W.	0·10	71	52	46	46	47	Cloudy
,, 3	29·90	N.E.	...	42	41	38	37	38	Cloudy
,, 4	30·47	N.E.	...	49	36	30	FRM.	32	Cloudy

During the week marked copies of the following newspapers have been received:—*Wandsworth Borough News, North China Daily News, Coventry Herald and Free Press, Brighton Mercury, Belfast News Letter, Daily Chronicle, Southern Times and Dorset County Herald, Reading Mercury, Herts Advertiser, Times of India, Aberdeen Free Press, Lancashire Post, Western Mercury, Pioneer Mail, Devon and Exeter Express, Scotsman, The Hospital, Daily Telegraph, Indian Municipal Journal, Belfast News, Dublin Evening Telegraph, Lancaster Guardian, Bradford Observer, Sheffield Daily Telegraph, Municipal Reformer, Daily Express, Standard, Bristol Mercury, Windsor and Eton Express, Westminster Gazette, Sunday Times, Westminster Budget, The Garden, &c.*

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